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NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**THE EFFECTS OF WORK-RELATED PERCEPTIONS ON
RETENTION OF HISPANICS IN THE U.S. MARINE CORPS**

by

Enrique A. Azenon

March 2006

Co-Advisors:

Kathryn Kocher
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**THE EFFECTS OF WORK-RELATED PERCEPTIONS ON RETENTION OF
HISPANICS IN THE U.S. MARINE CORPS**

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Captain, United States Marine Corps
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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

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This thesis investigates whether perceptions of the working environment are related to a Marine Corps member's intentions to remain on active duty. The study further examines whether perceptions about intra-organizational mobility, inequity in the workplace, and organizational support vary by racial/ethnic group. The analysis focuses on Hispanics, the largest growing ethnic minority in the United States and draws upon data from the 2002 Status of the Armed Forces: Gender and Working Relations (WGR) Survey. Logistic regression models are developed for junior officers and enlisted personnel to determine the relationship between perceptions of the working environment in the Marine Corps and a Marine's intention to stay on active duty or complete a 20-year military career. The results of the quantitative analysis show that negative views about professional development, current assignment, and equity in the workplace are significant in both officer and enlisted models. Results also indicate that, among racial/ethnic groups, Hispanics are most strongly influenced by the effects of negative perceptions in the working environment on their plans to remain in the Marine Corps. It is recommended that further research look at the Hispanic military population by focusing on the various sub-groups within the ethnic category itself.

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I. INTRODUCTION

One of the great strengths of our nation is our diversity. The Marine Corps benefits greatly from this strength by drawing individuals from all walks of life and molding them into cohesive, combat ready unit of Marines dedicated to our core values and the defense of our nation.¹

-General Michael W. Hagee
33rd Commandant, USMC

A. INTRODUCTION

The emergence of Hispanics as the largest ethnic minority in the country has not gone unnoticed by the Department of Defense (DoD). Although the proportion of Hispanics in the military has increased over the recent past, members of this group continue to be underrepresented in the officer population. DoD's commitment to recruiting and retaining more Hispanics can be seen in studies conducted by the RAND Corporation and the Center for Naval Analyses (CNA).² The United States Marine Corps is also aware of the growing Hispanic population and is committed to attracting more Hispanic men and women into higher leadership positions where they can better reflect the ethnic diversity of the men and women they lead.

The Marine Corps has seen a significant increase in the number of Hispanics who join, resulting in the highest percentage of Hispanics among the various branches of the military. As of September 2003, Hispanic representation in the Marine Corps was at 5.7 percent within the officer ranks and 13.9 among enlisted personnel, with the number still rising.³ Despite this growth, continued Hispanic underrepresentation in the higher officer ranks suggests that Hispanics either are not get promoted at the same rate as do white

¹ MARADMIN 506/05 Observance of National American Indian Heritage Month accessed from www.usmc.mil, December 2005.

² See Anita U. Hattiangadi, Gary Lee, and Aline O. Quester, *Recruiting Hispanics: The Marine Corps Experience Final Report*, And Beth J. Asch, Christopher Buck, Jacob Alex Klerman, Meredith Kleykamp, David S. Loughran, *What Factors Affect the Military Enlistment of Hispanic Youth?: A Look at Enlistment Qualifications*

³ Table 2.18 from DMDC Active Duty Master File (September 2003) shows the proportion of Hispanic officers/enlisted among the sister services: Air Force (3.3/6.1 percent), Army (3.9/10.9 percent) and the Navy (5.1/10.2 percent). Accessed from <http://www.militaryhomefront.dod.mil/portal/page>

officers or they tend to leave military service at an earlier point in their career.⁴ Other than the inherent difficulties associated with recruiting and retention, insufficient research currently exists to suggest why relatively fewer Hispanics rise to the top of the officer ranks.

The underrepresentation of racial/ethnic minorities in the officer ranks is a concern for the Marine Corps, especially with its ongoing commitment to promote a culturally-diverse fighting force. Before the Marine Corps can successfully achieve greater diversity in its officer ranks, it is important to understand the possible factors that might influence a person's retention intent and thus contribute to the underrepresentation of ethnic minorities among high-ranking officers. Despite the rising numbers of Hispanics in the officer corps and enlisted force, too few of this group are staying in the Marine Corps and advancing to assume the highest leadership positions.

At a time when the Marine Corps is continuously challenged to maintain superior readiness despite increasing demands on its equipment and, more importantly, its personnel, it must carefully consider population demographics and sociological factors that may potentially disrupt the balance in manpower readiness the Marine Corps currently enjoys. A diverse workforce requires effective approaches in leadership and management practices in order to attract and retain sufficient high-caliber personnel. Diversity management motivates employees to perform at their best, ensuring not only their success but also the success of the organization.

B. BACKGROUND

If recruiting is the "lifeblood" of the military, then retention may very well be the heartbeat that sustains it.⁵ Among a myriad of personnel challenges, recruitment and retention of junior officers have always been priorities for the military, especially as it relates to minority officers. Personnel turnover, or what the services refer to as retention (the rate at which personnel voluntarily choose to stay in the service after completing an obligated term), and attrition (the rate at which personnel leave), has been a significant issue since the inception of the All-Volunteer Force more than 30 years ago.

⁴ Hosek, S.D., Tiemeyer, P., Kilburn, M.R., Strong, D.A., Ducksworth, S., and Ray, R., *Minority and Gender Differences in Officer Career Progression*, RAND Corporation, (Santa Monica, CA: 2001).

⁵ Kapp, Lawrence. *Recruiting and Retention: An Overview of FY2004 and FY2005 Results for Active and Reserve Component Enlisted Personnel*, CRS, June 30, 2005.

In fiscal year 2003, the Marine Corps had 18,746 officers serving on active duty, with a majority distributed among the lowest three of the ten officer pay grades. During the same year, 1,500 officers were newly commissioned from eight different programs into those junior ranks, with 11.4 percent coming from enlisted commissioning programs.⁶ The biggest personnel loss was due to retirees, but the 453 voluntary separations constituted nearly 43 percent of all separations during the same period.⁷ In a dynamic organization such as the Marine Corps, imbalances in the retention rate can potentially lead to a loss of experience, efficiency, and a lower overall job satisfaction for those who remain, adversely affecting the service and making it a “less attractive career option” for those who might consider joining.⁸

Operational commitments for the Marine Corps, stemming from the ongoing Global War on Terrorism, have increased since September 11, 2001. Understanding current manpower challenges is especially important for the Marine Corps to keep up with increased operations and personnel demands and still manage to minimize the effects associated with long-term force requirements. Recent population trends and difficulties in the recruiting environment have prompted the military services to shift their focus of effort to demographic groups with the potential to yield high-quality applicants suitable for military service, in the hopes of staying one step ahead of future personnel shortages.

The Marine Corps is especially aware of the growing Hispanic population, because a significant percentage of the young men and women belonging to this minority group exhibit a high propensity for military service and, most importantly, identify with Marine Corps values and culture. With this in mind, the Marine Corps is addressing its manpower difficulties by seeking to attract even more highly-qualified applicants from this particular minority group. The hope remains, that Hispanic representation in the

⁶ Marine Corps Concepts and Programs 2004, accessed from <http://hqinet001.hqmc.usmc.mil/p&r/concepts/2004/TOC5.HTM>, December 2005.

⁷ 2003 *Demographics: Profile of the Military Community*, Military Family Resource Center (Arlington, VA: 2003), 34. Accessed from <http://www.militaryhomefront.dod.mil/portal/page>, January 2006.

⁸ Kapp, 8.

Marine Corps will coincide with the expected population growth of this ethnic group in the near future.⁹

While systematic recruiting addresses some of the deficiencies in manpower, this approach alone may not be sufficient to ease the operational burdens of an already thinly-spread fighting force. Achieving a balance between retention and attrition requires minimizing personnel turnover throughout all pay grades, particularly in the officer corps ranks. While it is true that Hispanic enlisted recruits enjoy success in various stages of their Marine Corps career, very little evidence suggests the same is true for their officer counterparts.¹⁰ In fact, the relatively small numbers of Hispanics in the officer ranks, may be indicative of the unfortunate loss of future leaders despite their self-reported compatibility and satisfaction with Marine Corps values and lifestyle.¹¹

Retention, or the rate at which officers voluntarily choose to stay past an initial term of obligated service, is generally considered to be the “benchmark of employee satisfaction.”¹² A General Accounting Office study conducted in 1999 showed that economic benefits ranked first among the top reasons identified by military personnel in their decision to stay or leave.¹³ However, the stay or leave decision is highly personal and dependent on more than just monetary gain. Depending on the individual, non-pecuniary factors, such as perceptions of the working environment, may be just as important in the retention decision-making process. These perceptions may influence overall job satisfaction and are specifically associated with perceptions of inequity in the workplace, a perceived lack of organizational support, or perceptions of low intra-organizational mobility, and decreasing future career opportunities as a high-ranking Marine officer.

While these perceptions may influence an officer’s intentions to stay in the military, their effect as it relates to retention intent among Hispanics, has serious

⁹Anita Hattiangadi, Gary Lee, and Aline O. Quester, *Recruiting Hispanics: The Marine Corps Experience Final Report*, CRM D0009071.A2, Center for Naval Analysis (Alexandria, Va.: January 2004).

¹⁰ Hattiangadi et al., 4.

¹¹ Hattiangadi et al., 26.

¹² Quester, Aline O., Gilroy, Curtis L., “America’s Military: A Coat of Many Colors,” (CNA/CRM D0004368.A1/Final, July 2001), 18.

¹³ General Accounting Office, *First-term Personnel Less Satisfied with Military Life than Those in Mid-Career*, GAO-02-200, (Washington, D.C.: December 2001), 20.

implications. Hispanics, as with many other Marines, remain on active duty because being a Marine is reward enough for them. But, unlike the majority of Marines who do not belong to an ethnic minority, negative perceptions, often confused with reality in the military, may be reason enough to leave. Studies have shown that ethnic diversity decreases at more senior ranks, which is understandable considering the small number of minorities relative to the entire officer population.¹⁴ However, the decreased diversity may be partly due to factors related to an officer's decision to voluntarily leave active duty early in his or her career. Often, this decision comes before achieving the rank of Major (O-4), which may further complicate the Marine Corps' commitment to obtain adequate representation of Hispanics in senior leadership positions. Understandably, the future Marine Corps leadership will only be as diverse as the junior officer ranks are today, and therefore the retention of minority officers is essential.

C. PURPOSE

This research seeks to analyze whether or not perceptions of low intra-organizational mobility (advancement opportunities), perceived inequity in the workplace, and a perceived lack of organizational support, are related to Hispanic officers' intention to stay in the service. Since the inception of the All-Volunteer Force, the Marine Corps has made notable strides in promoting racial/ethnic diversity within its ranks. However, Hispanics continue to be underrepresented in the officer population.¹⁵ Until recently, the Hispanic population was all but ignored due to their relatively small numbers; indeed, this population was typically combined with other ethnic groups when predicting behavior and propensities. As with other minorities, Hispanics have contributed a great deal to the U.S. military and will proudly continue to do so. Taking a closer look at this culturally diverse ethnic group and understanding their values will only serve to strengthen that commitment. In the end, these efforts may provide much needed insight into factors that affect Hispanic representation in the officer ranks.

Analyzing variables that may influence retention intent among officers can help the Marine Corps ensure that young men and women belonging to this growing minority

¹⁴ Hosek, S. D., Tiemeyer, P., Kilburn, M.R., Strong, D.A., Ducksworth, S., and Ray, R., *Minority and Gender Differences in Officer Career Progression* (Santa Monica, CA: RAND Corporation),3.

¹⁵ "Hispanics in the Military." Pew Hispanic Center, March 27, 2003. Accessed from <http://pewhispanic.org/reports/report.php?ReportID=17>, January 2006.

group stay to pursue high-ranking leadership positions in greater numbers or are drawn to join because they see successful leadership they can emulate. Increasing the number of Hispanics in the officer ranks by decreasing turnover and increasing their representation in the higher officer pay grades becomes an even bigger task without a clear appreciation of possible influencing factors.¹⁶ To further understanding of the relationship between work-related perceptions within a culturally diverse institution and the turnover decision, their relative influence must be evaluated. Studies have looked at work-related experiences as a means to predict employee turnover, but few have examined at the relationship between perceived work experiences and turnover intent across ethnically diverse groups. The work experiences chosen for this analysis represent indicators of job satisfaction.

Even though the Marine Corps can be viewed as a model for society in some ways, it must continually strive to refine its diversity programs and policies. Retention of junior officers has always been one of the numerous personnel problems faced by the military. However, today's focus on retention is not simply about numbers but also about quality.¹⁷ Past research has shown that it is difficult to pinpoint the reasons why junior officers leave the military. An understanding of the influences on the voluntary turnover decision is essential in developing programs and policies to manage turnover and minimize its effects—especially for underrepresented minority groups such as Hispanics.

D. RESEARCH QUESTIONS

1. Primary Research Questions

a. Do perceptions of low intra-organizational mobility, inequity in the workplace, and a lack of organizational support affect retention intentions among enlisted personnel and junior officer Marines?

b. Are the effects of these perceptions about the military working environment on intentions of staying in the Marine Corps different across racial/ethnic groups, particularly as they affect the retention decision of Marine Corps personnel?

¹⁶ *Military Attrition: Better Data, Coupled With Policy Changes, Could Help the Services Reduce Early Separations* (GAO/NSIAD-98-213, September 15, 1998).

¹⁷ Moskos, "Charles," "What Ails the All-Volunteer Force: An Institutional Perspective," *Parameters*, Summer 2001, pp. 34-5.

2. Secondary Research Questions

- a. What perceptions about intra-organizational mobility, inequity in the workplace, and organizational support are common among Hispanics?
- b. Can Hispanic representation be influenced through existing Marine Corps programs?

E. ORGANIZATION OF THE STUDY

Chapter II includes a review of significant literature and relevant research on turnover, officer retention, and components of job satisfaction that might affect a person's intention to stay in the military, Hispanics, and ethnic diversity in the military. In addition, literature on Hispanics and ethnic diversity in the military is discussed. Chapter III describes and summarizes the data used for the study and provides a preliminary analysis. Chapter IV presents the methodology and the logistic regression models used to evaluate influences on intended retention and career intentions. Chapter V presents model results and Chapter VI summarizes the study and concludes with a discussion on the findings and a presentation of recommendations for further research. Supporting information is included in an appendix.

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II. LITERATURE REVIEW

Today, diversity is embraced as a key to the success of our Marines on the battlefield. The individual Marine's diverse range of experiences and traditions is the strength of our Corps.¹⁸

-General Michael W. Hagee
33rd Commandant, USMC

A. OVERVIEW

The military has continually explored voluntary turnover of its highly skilled men and women in an effort to better understand the scope of the problem and minimize its effects. Since the inception of the All-Volunteer Force, both civilian and military studies have approached the subject from different viewpoints, each one building on past findings or theories while reframing the issue based on current circumstances and relying on recent data to re-estimate existing models. Despite extensive work completed through these approaches, much remains to be discovered about the motivation behind an individual's decision to voluntarily leave an organization.

In the military, a changing human capital landscape calls for constant research in the area of turnover and the rate at which personnel stay, better known in the military as "retention." This allows the military to reevaluate past findings and to develop an updated framework necessary for policy development based on recent and significant variables. Although military studies have considered race and ethnicity when modeling the retention decision and trying to explain variation in turnover intent, few studies have examined the various predictive variables in the context of racial and ethnic diversity. At the same time, even fewer of these studies have focused on emerging ethnic groups such as Hispanics. To better understand the relationship between work-related perceptions and employee turnover among ethnically diverse cultures in the Marine Corps, this study looks at pertinent information from previous studies. Additionally, this study explores literature dealing with perceptions of inequity in the workplace, organizational support, and intra-organizational mobility.

18 Perkins, J. "Corps Diversity a Strength," Marine Corps Recruiting Command, Washington, 23 June 2005, accessed from <http://www.usmc.mil/marinelink/mcn2000.nsf>, December 2005.

B. RETENTION

In the military organization, retention of personnel is a term usually recognized for its negative consequences on human capital investments, such as loss of knowledge and experience that typically results when a person voluntarily leaves. Another detrimental outcome of turnover for the organization is the cost of recruiting, training, and developing new personnel to replace those who are lost. For the individual, leaving the military may result from finding a higher-paying job or greater economic benefits in the civilian labor market. It could also be related to non-financial gains such as personal satisfaction with other employment opportunities, a better working environment, or an improved quality of life for one's family. Whether voluntary or involuntary, attrition is inevitable. However, organizations have been able to reduce the effects of attrition through timely and effective manpower management and by relying on internal processes to fill vacancies.¹⁹

Although the consequences of turnover are widely accepted, research results have been inconsistent regarding the variables that lead a worker to leave his or her job. Because the military environment is uniquely complex, it should not be a surprise that the decision to leave that environment is equally complicated and subject to numerous social, political, economic, and sociological influences. Large-scale and highly dynamic institutions such as the military are constantly exposed to varying internal and external factors that necessitate frequent assessments of their work processes for the organization to thrive. This is especially true today, with the rapid expansion of racial and ethnic minorities in the U. S. population.

1. Modeling Officer Retention Behavior

Studies of officer retention have primarily been accomplished through large-scale surveys, multivariate economic models, and individual process models.²⁰ Research has yielded significant results connecting important factors such as pay, job satisfaction, medical benefits, and deployments, to actual retention behavior among military

¹⁹ Zinner, Marc A., *U.S. Marine Corps Company-Grade Officer Retention*, Naval Postgraduate School, Monterey, CA, March 1997, 7.

²⁰ Weiss, Howard M., et al. *Retention in the Armed Forces: Past Approaches and New Research Directions*, Military Family Research Institute, Purdue University, 2001, 1.

personnel.²¹ Models relying on economic principles to explain retention have also been quite successful, and their findings are often instrumental for policy development.²² The Annualized-Cost-of-Leaving (ACOL) model used to analyze pay for Marine Corps aviators finds the retention decision to be dependent on the discounted pay difference between military pay, as a result of staying, and civilian pay, as a result of leaving.²³ Retention behavior has also been analyzed using individual process models that look at an outcome, such as retention, as a function of demographic traits, military experience, and external factors such as unemployment rate. More importantly, several of these studies have agreed with an argument put forward by Mobley et al. that an employee's intent to leave an organization is a significant predictor of actual turnover.²⁴ Despite these efforts and the advances in understanding retention behavior among military personnel, the decision remains much more complicated than some of these studies suggest. Ultimately, further research may help to establish other significant links among the various findings.

2. Retention of Racial and Ethnic Minorities

During a time of military manpower challenges, it is especially important to understand and predict the intentions of members to leave or remain in the organization. It is also increasingly important to understand the various factors that influence minority personnel's intentions to leave or stay in the military, since this portion of the military population has expanded considerably. Current research results are inconsistent with regards to turnover among racial or ethnic minorities. Kocher and Thomas found that minority Army officers were less likely to leave the military than white officers.²⁵ Through the use of longitudinal data taken from the Defense Manpower Data Center

²¹ Kocher, K. M. & Thomas, G. W., *A Preliminary Analysis of the 1999 USMC Retention Survey*, (CRM 85-21) Naval Postgraduate School, Monterey, CA, February 1985, 3.

²²Weiss, Howard M., et al. *Retention in the Armed Forces: Past Approaches and New Research Directions*, Military Family Research Institute, Purdue University, 2001, 1. , 2.

²³ Kostiuk, Peter F., *Pay and Retention of Marine Corps Aviators*, Center for Naval Analyses, Alexandria, VA., November 2001, 1.

²⁴ Mitchel, James O., "The Effect of Intentions, Tenure, Personal, and Organizational Variables on Managerial Turnover," *Academy of Management Journal*, Vol. 24, #4, Academy of Management, December 1981, 742.

²⁵ Kocher, K. M. & Thomas, G. W., 3.

(DMDC) Officer Master File (OMF), a military-wide study analyzing the effects of commissioning source on officer retention echoed previous findings showing that black officers were more likely to stay in the military past their minimum service requirement (MSR) than were whites. The same study also found that, despite the small number of in the sample, Hispanics were less likely to stay past their MSR as compared with their white counterparts.²⁶ Another study focused on the effects of personnel tempo in the military and found that, in the Navy, Hispanic junior officers were more likely to leave than were their counterparts.²⁷

In another study of officer promotion and retention, RAND researchers found no significant differences between racial or ethnic groups. Using officer cohort data files from DMDC, the RAND study focused primarily on differences between black and white officers within seven officer cohorts from 1967 to 1993. No significant differences were found in promotion losses due to race. However, explaining how these officers leave, either voluntarily or involuntarily, did significantly vary by race. When departure is likely to be voluntary, white men and white women were found to be more likely to leave than were black men and women. In fact, the study found that black men were more likely to stay between promotions but were less likely to actually be promoted. These promotion results were consistent with the findings of similar studies focusing on the Navy and Marine Corps.²⁸ Due to small sample sizes and inconsistencies in the historical recording of race and ethnicity across cohorts, promotion and retention rates for Hispanic and Native American service members were not examined closely, but the study points out the results for other minority groups closely resembled those of black officers.²⁹

C. HISPANICS IN THE MILITARY

Even though Hispanics are one of the fastest growing segments of the civilian workforce, previous studies on retention and performance in the civilian sector have

²⁶ Demirel, Turgay, "A Statistical Analysis of Officer Retention in the U.S. Military," Naval Postgraduate School, Monterey, CA, March 2002, 58.

²⁷ Fricker, Ronald D., Jr., *The Effects of Perstempo on Officer Retention in the US Military*, (Santa Monica, CA: RAND Corporation, January 2002), 66.

²⁸ Ibid., 68.

²⁹ Hosek, S. D., Tiemeyer, P., Kilburn, M.R., Strong, D.A., Ducksworth, S., and Ray, R., *Minority and Gender Differences in Officer Career Progression* (Santa Monica, CA: RAND Corporation), 44.

largely ignored this group, focusing largely on differences between Whites and African Americans.³⁰ By the end of fiscal year 2003, military-wide representation of Hispanics had increased by 4.7 percent over the period of 15 years (Figure 1). Despite the rapid growth of Hispanics in the American population, only 0.4 percent of that increase seen in the military occurred between 2001 and 2003.³¹ These recent population and military manpower trends have motivated the Department of Defense (DoD) examine more closely the various issues affecting minority officer recruitment, performance, promotion, and retention.³²

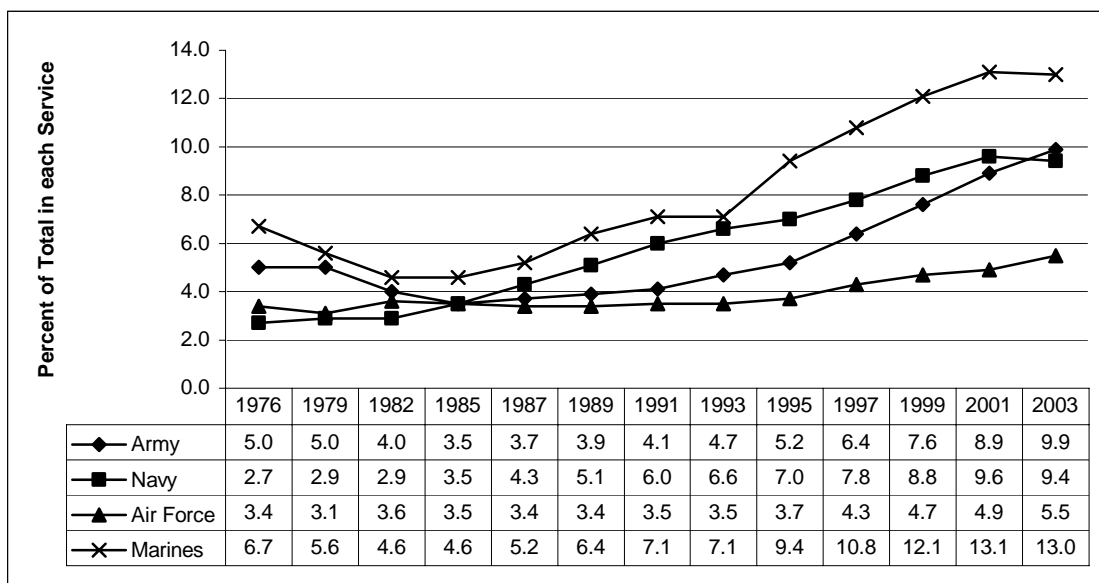


Figure 1. Hispanics in the Military: 1976-2003, by Service Branch
(From: Twenty-seven Year Demographic Trends: Active Duty Forces, 1977-2004, DEOMI, 2003.)

True to this commitment, the 2003 Population Representation (PopRep) in the Military Services Report highlighted a significant change in data collection and reporting: “Hispanic” is no longer considered a subset of race/ethnicity.³³ The change was motivated by a 1997 study published by the Office of Management and Budget (OMB)

³⁰ Landau, Jacqueline., “The Relationship of Race and Gender to Manager’s Rating of Promotion Potential.” *Journal of Organizational Behavior*, Vol. 16, No. 4 (July 1995), 391.

³¹ DEOMI, *Twenty-seven Year Demographic Trends: Active Duty Forces, 1977-2004*, (Patrick Air Force Base, Florida: Defense Equal Opportunity Management Institute, 2004), 1.

³² Population Representation in the Military Services: Fiscal Year 2001, March 2003, chapter 4-10.

³³ Population Representation in the Military Services: Fiscal Year 2001, March 2003, accessed December 2005 from, [http://www.dod.mil/prhome/poprep2003/ Executive Summary](http://www.dod.mil/prhome/poprep2003/Executive%20Summary).

that called for new methods new methods of collecting accurate data on diverse populations. Under new guidelines, federal agencies, including DoD, are required to provide respondents with five race categories (Table 1). This contrasts with the old system that offered just three choices for identifying race. Because these recent changes

Table 1. Data Collection Changes

Old System	New System	
Race/Ethnicity	Race/Ethnicity	Hispanic Identity
White Black Hispanic Other	White Black/African American Native Hawaiian/Pacific Islander American Indian/Native Alaskan Asian Two or more Races	Hispanic Not Hispanic

(After: Executive Summary, Population Representation in the Military Services, FY2001.)³⁴

in defining race and ethnicity data collection took place in January of 2003, as opposed to the start of fiscal year 2003 (i.e., October 2002), comparisons between military and civilian populations vary based on the difference in the start and end of the collection periods. According to the U. S. Census Bureau, measuring subjective characteristics such as race and ethnicity remains a daunting task, especially when some Hispanics find it difficult to separate their ethnicity (i.e., Hispanic) from their race.³⁵ The inability to classify personnel accurately has complicated the study of Hispanic representation in the military. Despite these challenges, the Census Bureau feels that acknowledging the existing diversity among military personnel facilitates capturing a more accurate depiction of the military's Hispanic population when comparing current personnel data with historical data or with civilian estimates.³⁶

1. Marine Corps Appeal for Hispanics

A 2004 study by the Center for Naval Analyses, titled *Recruiting Hispanics: The Marine Corps Experience*, reports that Hispanic recruits in the Marine Corps have increased from 5 percent during fiscal 1985 to over 13.9 percent in fiscal 2002.

³⁴ Population Representation in the Military Services: Fiscal Year 2001, March 2003, accessed December 2005 from, <http://www.dod.mil/prhome/poprep2003/ExecutiveSummary>

³⁵ U.S. General Accounting Office, *Decennial Census: Methods for Collecting and reporting Hispanic Subgroup Data Need Refinement*, GAO-03-228 (Washington, D.C.: January 2003), 2.

³⁶ Ibid., 3.

According to the same study, Hispanic recruits experience great success in the Marine Corps. Even when controlling for other differences, their attrition rates in boot camp and throughout their first term of service were found to be lower than the average for all recruits. The study concluded that Hispanics identified with Marine Corps core values and its high standards, and that Hispanics found the lack of emphasis on race and ethnicity within the organization quite appealing.

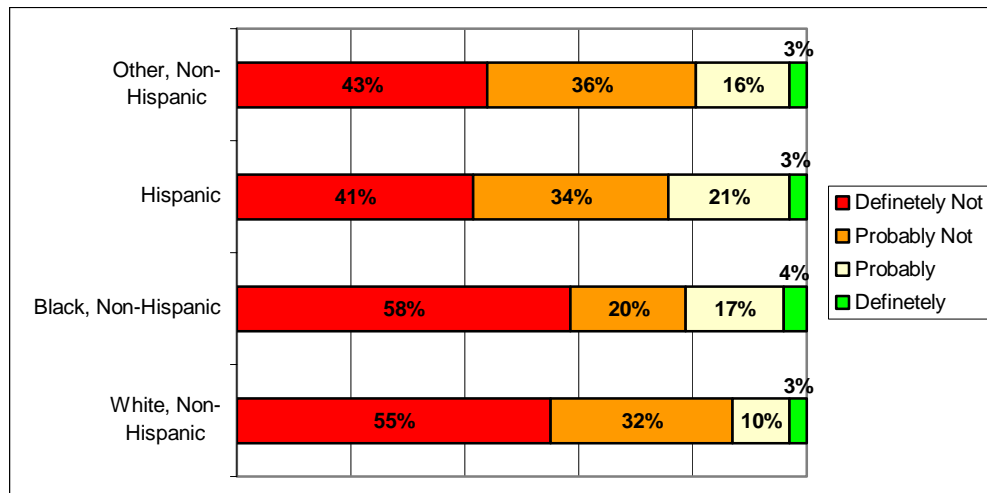


Figure 2. Youth Military Propensity, by Race/Ethnic Group, November 2003
(From: DoD Youth Poll Wave 6: Overview Report, JAMRS, July 2004.)

In a similar vein, a recent DoD poll of youth attitudes shows that 24 percent of Hispanic teenagers report that they would “probably” or “definitely” be serving in the military in the coming years (Figure 2). This compares with 13 percent of whites and 21 percent of blacks.³⁷ Of that same group, 21 percent of Hispanic males reported that they would most likely serve in the Marine Corps, as compared with 14 percent of blacks and 11 percent of white males who reported the same preference (Figure 3). Generally, minorities have been historically overrepresented in non-tactical occupations, such as supply and administration in the military, as compared to whites. In the Marine Corps and the Army, on the other hand, Hispanics indicate they are most likely to serve in combat arms jobs, such as infantry, when compared with blacks or whites.³⁸

³⁷ Boehmer, Matt, and Zucker, Andrea, *Department of Defense Youth Poll Wave 6: Overview Report* (Joint Advertising, Market Research and Studies, Arlington, VA: July 2004), 15.

³⁸ “Hispanics in the Military,” Pew Hispanic Center, (Washington, DC: March, 2003), 5.

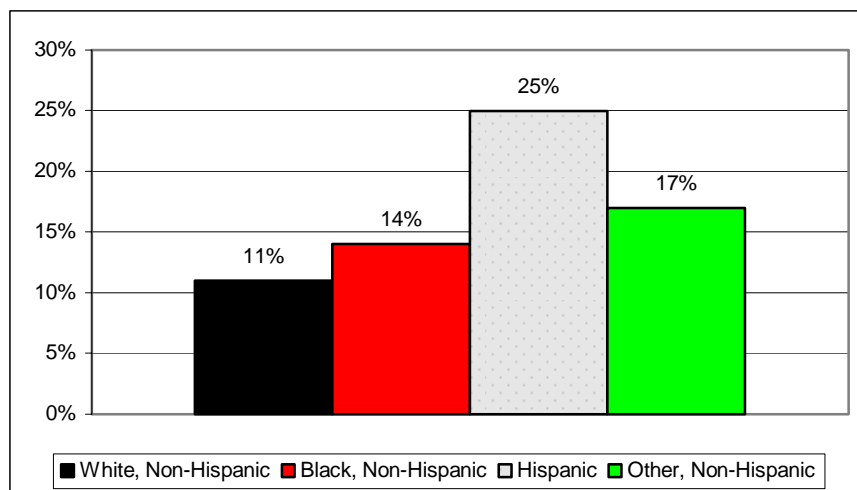


Figure 3. Marine Corps Service Propensity, by Race/Ethnic Group, November 2003
(After: DoD Youth Poll Wave 6: Overview Report, JAMRS, July 2004.)

2. Representation in the Ranks

Minority representation within the active duty officer corps has been a long-standing concern for DoD and for the Marine Corps. Although the number of Hispanic officers has risen considerably since the 1970s, the Marine Corps is very much aware of the underrepresentation of Hispanic officers, especially when compared with trends in the enlisted ranks. At the end of fiscal year 2003, Hispanics were found to make up 5 percent of all military officer accessions, compared with 7 percent of 21-35 year old college graduates in the civilian population.³⁹ The "Hispanic Statistical Profile," reported by DMDC shows this same upward trend in the number of Hispanic officers earning commissions from service academies, rising from 1.7 percent in September 1992 to 4.1 percent in September 2001. As Clarence Johnson, principal director of the Office of the Deputy Undersecretary of Defense for Equal Opportunity, observed: "Hispanics must be better represented in the leadership ranks, because we want role models for our youth and we want our military leadership to reflect the force they lead."⁴⁰

At the end of fiscal year 2004, 1,116 of the 18,839 (5.9 percent) men and women in the active-duty officer population were Hispanic. Looking at enlisted personnel, of the

³⁹ Poprep 2003 executive summary.

⁴⁰ DoD Needs More Hispanics in Military, Newmax.com, September 2005, <http://www.newsmax.Com/archives/articles/2005/9/19/210126.html>, accessed December 2005.

158,641 men and women across all ranks, 21,916 (13.8 percent) were Hispanic, down from 22,077 in fiscal year 2003.⁴¹ These numbers indicate a ratio of 1 to 19.6 for Hispanic officers to Hispanic enlisted personnel, as compared with a ratio of 1 to 6.5 for white officers to white enlisted personnel.⁴² Table 2 and Table 3 show that, among active duty officers, the Marine Corps had twice as many African-American Colonels (O-6) and more than 40 times more white O-6s than did their Hispanic counterparts. In the lower pay grades (O-1 through O-3), the number of Hispanics closely mirrored that of African Americans, but the numbers were ten times less than that for whites of the same rank, pointing to the lack of underrepresentation of Hispanics within the officer ranks.

Table 2. Number of Marine Corps Officers, by Racial/Ethnic Group, Gender, and Rank, 2005

RANK	WHITE MALE	WHITE FEMALE	BLACK MALE	BLACK FEMALE	HISPANIC MALE	HISPANIC FEMALE	OTHER MALE	OTHER FEMALE	TOTAL
WO/CWO	1,298	61	262	37	150	15	88	7	1,918
2ndLt (O-1)	1,691	167	78	11	132	13	131	13	2,236
1stLt (O-2)	2,428	211	161	23	202	28	226	21	3,300
Capt (O-3)	3,902	241	380	35	336	28	276	32	5,230
Maj (O-4)	2,937	55	198	10	144	4	153	9	3,510
LtCol (O-5)	1,653	46	68	4	48	0	59	0	1,878
Col (O-6)	607	19	29	2	14	1	13	1	686
Gen (O-7:O-10)	74	2	4	0	1	0	0	0	81
TOTAL	14,590	802	1,180	122	1,027	89	946	83	18,839

(From: Chapter 5, Marine Corps Almanac, USMC Concepts & Programs 2002.)

⁴¹ 2003 DMDC Active duty Master File, Sept. 2003 (<http://www.mfrc-dodqol.org/pdffiles/demo2003/SectionIIActiveDutyMembers.pdf>), accessed December 2005.

⁴² USMC Concepts and Programs 2005. Headquarters, U.S. Marine Corps, Washington, D.C.: 2005), 236.

Table 3. Percentage of Marine Corps Officers, by Racial/Ethnic Group, Gender, and Rank, 2005

RANK	WHITE MALE	WHITE FEMALE	BLACK MALE	BLACK FEMALE	HISPANIC MALE	HISPANIC FEMALE	OTHER MALE	OTHER FEMALE	TOTAL
WO/CWO	67.67	3.18	13.66	1.93	7.82	0.78	4.59	0.36	100.00
2ndLt (O-1)	75.63	7.47	3.49	0.49	5.90	0.58	5.86	0.58	100.00
1stLt (O-2)	73.58	6.39	4.88	0.70	6.12	0.85	6.85	0.64	100.00
Capt (O-3)	74.61	4.61	7.27	0.67	6.42	0.54	5.28	0.61	100.00
Maj (O-4)	83.68	1.57	5.64	0.28	4.10	0.11	4.36	0.26	100.00
LtCol (O-5)	88.02	2.45	3.62	0.21	2.56	0.00	3.14	0.00	100.00
Col (O-6)	88.48	2.77	4.23	0.29	2.04	0.15	1.90	0.15	100.00
Gen (O-7:O-10)	91.36	2.47	4.94	0.00	1.23	0.00	0.00	0.00	100.00
TOTAL	77.45	4.26	6.26	0.65	5.45	0.47	5.02	0.44	100.00

(After: Chapter 5, Marine Corps Almanac, USMC Concepts & Programs 2005.)

It is difficult to explain the reasons for the underrepresentation of Hispanics in the military. RAND's research into minority participation in Special Operations Forces (SOFs) across the military found that, among the barriers contributing to the underrepresentation of Hispanics and other minorities, is a lack of role models, making it difficult to attract future candidates into the communities.⁴³ Harrell and Kirby attributed structural barriers, such as entry prerequisites and perceptual barriers, such as the perceptions that lead minorities to think they should not join SOFs, as largely responsible for their underrepresentation. These barriers result in fewer minorities in those communities, which ultimately means that fewer minorities are likely to join, making it a self-perpetuating problem.⁴⁴

Others have argued that lower minority representation in the officer corps, especially the higher pay grades, may be a result of lower promotion rates for minorities as compared with whites, or that minorities tend to separate from service at an earlier date before reaching a promotion point in their careers.⁴⁵ Still others attribute the underrepresentation of Hispanics in the officer corps to lower academic achievement as a

⁴³ Harrell, Margaret, C. and Kirby, Sheila N., *Barriers to Minority Participation in Special Operations Forces*, RAND Corporation, MR-1042-SOCOM, 1999.

⁴⁴ Harrell, 3.

⁴⁵ Hosek, S. D., Tiemeyer, P., Kilburn, M.R., Strong, D.A., Ducksworth, S., and Ray, R., *Minority and Gender Differences in Officer Career Progression* (Santa Monica, CA: Rand Corporation).

result of lower college enrollment and graduation rates when compared with that of other population groups.⁴⁶

3. Diversity Among Hispanics

Hispanics take tremendous pride in their culture and are therefore reluctant to compromise their identity. Various studies argue that the demographic label applied to Hispanics is an example of this. It may very well be that the label currently used to categorize this ethnic group is convenient, but many researchers have questioned its accuracy. Some studies have suggested that the term “Hispanic” is inappropriate and problematic, considering the extent of diversity in the groups it purports to define. Introduced in 1973 by the Department of Health, Education, and Welfare, the term “Hispanic” was meant to replace other labels used to categorize different Spanish-speaking racial and ethnic groups.⁴⁷ The complexity of Hispanic ethnicity may be responsible for a lack of collective self-identity, despite a shared language and the perception of a shared culture.⁴⁸ National origin carries great significance within this ethnic group, because it takes into consideration the very distinct history associated with each place of birth included in the population.

Race is primarily based on physical characteristics, whereas ethnicity refers to social and cultural characteristics. Because Hispanics can be of any race, the socially-constructed “Hispanic” identifier is meant to denote an ethnic group that is perceived to have a common origin and culture. Thus, the term may not necessarily reflect demographic or cultural differences among the existing Hispanic subgroups.⁴⁹ The 2000 Census accounted for 35.2 million Hispanics who made up 12.5 percent of the total population. The significance of national origin among Hispanics is very evident when looking at how that number is distributed (Figure 4). Among those identifying themselves as “Hispanic” or “Latino” were persons of Mexican origin (59 percent),

⁴⁶ Hernandez, Javier, *An Exploratory Study of Hispanic Officer Recruiting in the Mexican-American Community of South-Central Los Angeles: Implications for the Officer Corps of the Future*, Naval Postgraduate School, (Monterey, CA, June, 2003), 33-35.

⁴⁷ DEOMI, *Hispanic Heritage Month: A Vision for the 21st Century*, (Patrick AFB, FL: 1999), 3.

⁴⁸ Portes, Alejandro and Truelove, Cynthia., “Making Sense of Diversity: Recent Research on Hispanic Minorities in the United States,” *Annual Review of Sociology*, Vol 13 (1987), 360.

⁴⁹ Porter, J. R. and Washington, R. E., “Minority Identity and Self-Esteem,” *Annual Review of Sociology*, Vol. 19 (1993), 140.

Puerto Ricans (9.7 percent), Central Americans (5.1 percent), South Americans (4.0 percent), Cubans (3.5 percent), Dominicans (2.3 percent), and “Other Hispanic” (15.7 percent), which included all those identifying themselves as being of general Hispanic-origin.⁵⁰

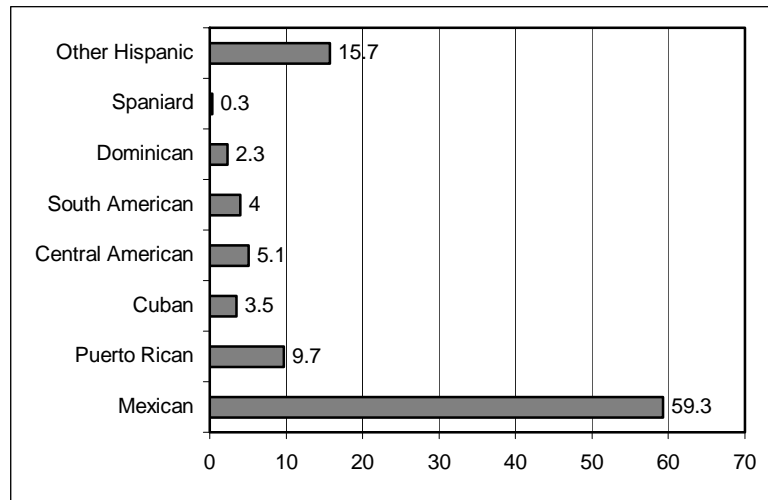


Figure 4. Hispanic Population in 2000, by Origin
(From: We are the People: Hispanics in the United States, U.S. Census Bureau, Census 2000 Summary File 4.)

The diversity within the Hispanic category goes beyond differences in national origin, despite the perceived “commonness” of language and culture.⁵¹ Forty percent of those participating in the census were foreign-born and, while the Census report identifies native and naturalized citizens, it does not accurately account for those in the country illegally. Under the same ethnic group label, one can find differences in English language proficiency, labor force participation, and geographic distribution within the United States. The constant influx of this ethnic group continues to complicate efforts to adequately categorize it. Educational achievement among Hispanics 25 years and older shows that Cubans, Puerto Ricans, and Central and South Americans are more likely to have at least a high school diploma as compared with Mexicans. A higher proportion of these same groups have attained at least a bachelor’s degree with (17.3 percent) for

⁵⁰ Ramirez, Roberto., “We the People: Hispanics in the United States,” U.S. Census Bureau, Washington, D.C., December 2004, 1.

⁵¹Portes, Alejandro and Truelove, Cynthia., “Making Sense of Diversity: Recent Research on Hispanic Minorities in the United States,” *Annual Review of Sociology*, Vol 13 (1987), 360.

Cubans, 19.7 percent for Central and South Americans, to 7.6 percent for Mexicans.⁵² The complexity of this diversity continues with the realization that each of these self-reported categories represents a different history that affects “patterns of entry and adaptation to American society.”⁵³

D. DIVERSITY AND TURNOVER

In the past 30 years, the demographic composition of labor force has changed dramatically and, according to the U.S. Census Bureau, the trend is expected to continue with the rapid growth of minorities. In the year 2000, one in four Americans was considered part of a racial or ethnic minority. By the year 2050, minorities are expected to make up more than half of the population in the United States. Demographic changes are not unique to the civilian sector. Since 1974, the military has seen similar increases in women and minorities. Transitioning from a predominantly white society to a multicultural one representative of diverse racial and ethnic minorities will undoubtedly affect the work force. The increasing cultural changes in the work force will continually introduce new challenges in the area of human resource management, but education that leads to harnessing unique knowledge and ideas can also mean greater organizational success. Valuing diversity and learning to manage it can have significant rewards.

Recent interest in diversity has been fueled by research linking it to important organizational issues such as employee satisfaction, creativity, productivity, and employee turnover.⁵⁴ However, consensus on the definition of diversity continues to vary among civilian researchers, personnel managers, and leaders alike. Definitions for the term quite frequently refer to its traditionally-narrow definition relating to race, gender, religion, and age; and the concept is seldom seen for what it is, simply variety. Research by Milliken and Martins, focuses on a typology of diversity, further breaking it down into “observable” and “less observable” dimensions that differentiate between the traditional views, to include race and gender, and other less-visible attributes, such as

⁵² Ramirez, Roberto and De la Cruz, Patricia, “The Hispanic Population in the United States: March 2002,” U.S. Department of Commerce, Washington, D.C., June 2003, 5.

⁵³ Portes, 360.

⁵⁴ Dansby, Mickey R., “Managing Diversity in the Military: Research Perspectives from the Defense Equal Opportunity Management Institute,” (Transaction Publishers, New Jersey: 2001), 63.

education, abilities, socioeconomic background, and personality characteristics.⁵⁵ Harrison, Price, and Bell measured diversity by drawing a distinction between “surface-level” and “deep-level” diversity, which distinguishes between readily detectable characteristics such as race, gender, age, and deep-level characteristics, such as attitudes, beliefs, and values.

Combining these two typologies leads Whaley to classify diversity based on how easily variables are measured.⁵⁶ In Figure 5, he takes Milliken and Martins’ “observability” classification and plots it against Harrison et al.’s “measurability” classification. These typologies are significant in that, their findings remain inconsistent across studies when “surface-level” or “observable” variables, usually related to questions of equal opportunity and affirmative action (such as those found in cell one), are examined against outcome variables (including performance, organizational commitment, or turnover).⁵⁷ Still, variables in cell one and those in cell two, which often deal with religion, marital status and social-economic status, are continually used in studies because they are easily measured through surveys or polls and considered quite reliable. Across group processes and outcomes, such as group performance and turnover, diversity variables in cells two and three have been shown to be strongly related to those processes. However, obtaining valid and reliable measures of these variables is often difficult and, to this time, diversity variables in cell three have not been extensively considered in diversity research. Harrison et al.’s “deep level” diversity variables, although difficult to measure and less reliable, have been linked with performance, group processes, and, more importantly, turnover.⁵⁸

⁵⁵ Dansby, Mickey R., “Managing Diversity in the Military: Research Perspectives from the Defense Equal Opportunity Management Institute,” (Transaction Publishers, New Jersey: 2001), 63.

⁵⁶ Dansby, 65.

⁵⁷ Dansby, 67.

⁵⁸ Dansby, Mickey R., “Managing Diversity in the Military: Research Perspectives from the Defense Equal Opportunity Management Institute,” (Transaction Publishers, New Jersey: 2001), 67.

		Observability	
		Readily Observable	Less Observable
Measurability	Easily Measured	Cell 1 Race/Ethnicity Gender/age	Cell 2 Nat'l Origin Education Org. Membership
	Less Easily Measured	Cell 3 Task Behavior Enacted Roles Skills	Cell 4 Values Attitudes Personality

Figure 5. Typology for Diversity Measures
(From: *Managing Diversity in the Military: Research Perspectives from the Defense Equal Opportunity Management Institute.*)

When looking at organizational diversity and its effect on the individual, Ely finds that diversity among senior level management may determine how diversity is accepted at the lower levels of the organization. In fact, Milliken and Martins claim that a lack of diversity at the higher levels of an organization may impede achievement of organizational goals and “may be systematically affecting the behavior of all members who observe the homogeneity at the top and react to it in ways that are detrimental.”⁵⁹ Research by Blau argues that an individual’s perception of diversity is related to the strength of that person’s organizational commitment.⁶⁰ The more heterogeneity that exists in an organization, the less likely the individual will perceive diversity problems to exist within the organization.

Returning to Whaley’s general typology for diversity, previous research suggest that “surface level” variables adversely affect individual outcomes, such as job satisfaction, absenteeism, and turnover.⁶¹ Simply put, what an individual thinks about his or her job and what that person perceives about opportunities in the work environment have a great impact on the organization, regardless of whether or not the person’s beliefs are based on facts. The extent to which an employee will contribute to the organizational

⁵⁹ Dansby, Mickey R., “Managing Diversity in the Military: Research Perspectives from the Defense Equal Opportunity Management Institute,” (Transaction Publishers, New Jersey: 2001),73.

⁶⁰ Blau, P.M., “Inequality and Heterogeneity: A Primitive Theory of Social Structure,” (New York: Free Press, 1977).

⁶¹ Dansby, 74.

goals is dependent on whether or not he or she feels valued. The effects of diversity on organizational success can be better predicted by understanding the diversity climate.⁶²

1. Managing Diversity in the Military

Managing diversity is about fostering an environment that allows those being managed to reach their full potential.⁶³ Satisfaction, or workers' assessment of how they view their jobs, is important in explaining their predisposition to leave or remain in an organization. Military studies have found significant correlation between members' intentions to leave and how they view their job when considering job characteristics, opportunities in pay and promotion, work environment, and quality of leadership and supervision.⁶⁴

Research findings point out the clear benefits of well-managed diversity, including greater innovation, increased productivity, and a lower employee turnover.⁶⁵ Outside of the military, diversity has been linked to greater success stemming from reduced interpersonal conflict, enhanced work relationships, and greater innovation. Research has shown that choosing to ignore diversity may result in a high employee turnover rate brought about by lack of a supportive work environment and may inhibit the recruitment of talented workers who are driven away by knowledge of the organization's practices.⁶⁶

E. JOB SATISFACTION

Job satisfaction, or workers' assessment of how they view their job, is important in explaining one's predisposition to leave or stay in an organization. Research by Kocher and Thomas as well as Lakhani point out that higher reported satisfaction by military personnel usually translates to a higher probability of staying or indicating intent

⁶² Moon, Molly K., "Understanding the Impact of Cultural Diversity on Organizations." Air Command and Staff College, March 1997. 11.

⁶³ Thomas, R. R. Jr., *Beyond Race and Gender: Unleashing the Power of Your Total Workforce by Managing Diversity*, (New York, NY: American Management Association), 3.

⁶⁴ Behnke, Andrew O. et al., "Ethnic Variations in the Connection Between Work-induced Family Separation and Turnover Intent." Military Family Research Institute, Purdue University.

⁶⁵ Loden, Marilyn, Rosner, Judy, *Workforce America! Managing Employee Diversity as a Vital Resource*, (Homewood: Business One Irwin, 1991), 221.

⁶⁶ Loden, 220.

to stay in the military.⁶⁷ If predictors of job satisfaction can be identified, the military may be able to take action to increase retention and thereby reduce the negative effects associated with voluntary turnover.

Job satisfaction among military personnel may be unique, due to the characteristics of the military environment, but the Steers and Mowday model is still applicable in the military environment. Among the proposed variables that lead to an employee leaving an organization are: job expectation and values and organizational experiences that influence job satisfaction. Later studies concluded that job satisfaction and work-related perceptions of a job were significant predictors for the expectation to reenlist.⁶⁸

1. Equity Theory

Studies focusing on employees' perceptions of equity or inequity, as it is often called, have been around for quite some time. Lawler argued that "fairness" and the inconsistency in its application are among the strongest theoretical explanations for employee satisfaction in the workplace.⁶⁹ In fact, employee dissatisfaction with equity, or the perceptions of inequity, has been linked to outcomes such as absenteeism, low productivity, and turnover.⁷⁰ A study of perceived inequity among hourly workers posits that people are motivated to reduce inequity, but if equity cannot be achieved, they will likely leave the organization. Using a Likert-type scale, the survey questions focused on equity, rather than satisfaction, and found that perceptions of inequity (in terms of supervision, working conditions, and both intrinsic and social aspects of a job), are could be associated with turnover. The findings suggest that employees who perceive

⁶⁷ Sanchez, Rebecca P., Bray, Robert M., Vincus, Amy A., and Bann, Carla M., *Predictors of Job Satisfaction Among Active Duty Reserve/Guard Personnel in the U.S. Military*, *Military Psychology*, 16(1), 2004, 20.

⁶⁸ Lee, Thomas W., Mowday, Richard T., *Voluntarily Leaving an Organization: An Empirical Investigation of Steers and Mowday's Model of Turnover*, *The Academy of Management Journal*, Vol. 30, No. 4 (Dec., 1987), 721-723.

⁶⁹ Lawler, Edward E., *Motivation in Work Organizations*, Monterey, CA: Brooks and Cole, 1973

⁷⁰ Cosier, Richard, A., Dalton, Dan R., *Equity Theory and Time: A Reformulation*, *The Academy of Management Review*, Vol. 8, No.2(Apr.,1983),311.

inequitable treatment become frustrated to the point where they will not contribute their best efforts to the organization.⁷¹

When evaluating research and models dealing with demands of equitable treatment by employees, Carrell and Dittrich found that, among minorities and women, perceptions of inequity tend to reduce satisfaction, decrease the value of rewards, and decrease employee effort within an organization.⁷² The study points out that the equity theory is applicable to areas in organizational behavior and the relationship between perceived equity and work-related efforts are not just limited to the effort and pay relationship. Employees assume an equitable return (pay, promotion, job status, etc.) in exchange for their inputs (skills, education, effort, etc.). Most studies on the theory of equity were conducted in laboratory settings with significant results. However, a field study of manufacturing employees argued that turnover or “quitting” may be one way the perception of inequity is lessened.⁷³

2. Organizational Support

The results of previous literature vary on the subject of racial minorities and their lack of social and influential support in corporate settings. A number of previous studies have argued that minority managers fail to advance quickly in their careers and organizations because they lack significant support in the workplace.⁷⁴ In a military setting, the lack of moral support coupled with pressure to prove oneself, as experienced by minorities, increases with rank and “causes undue stress on the officer.”⁷⁵

Researchers have offered significant results linking perceptions of procedural justice and organizational citizen behavior (OCB), but few have presented details of the thought process that takes place in the exchange. Survey data gathered from civilian

⁷¹ Telly, Charles S., French, Wendell, L., and Scott, William G., *The Relationship of Inequity to Turnover Among Hourly Workers*, Administrative Science Quarterly, Vol. 16, No. 2 (June 1971), 1165-172.

⁷² Carrell, Michael R., Dittrich John E., Equity Theory: The Recent Literature, Methodological Considerations, and New Directions, The Academy of Management Review, Vol. 3, No. 2 (April 1978), 202-205.

⁷³ Ibid., 204.

⁷⁴ Ibarra, Herminia Race, *Opportunity, and Diversity of Social Circles in Managerial Networks*, The Academy of Management Journal, Vol. 38, No. 3 (June 1995), 673-703.

⁷⁵ Sears, George A., *Can Minorities Succeed in Today's Army.*, Strategy Research Project. U. S. Army War College, PA, May 2004, 7.

supervisors and their subordinates at a military hospital examined the role of perceived organizational support, described as the perception of the extent to which an organization cares for employees and values their contributions, and its role in linking perceptions of OCB to procedural justice.⁷⁶ Simply stated, an employee's perception of his or her value to an organization may determine whether or not the employee exhibits behaviors that benefit the organization. Results showed that perceptions of procedural justice affect employees' perceptions of organizational support, which ultimately prompts workers to reciprocate with citizenship behaviors.⁷⁷

Citizen behavior was measured by supervisors reporting the extent to which subordinates exhibited interpersonal helping, individual initiative, personal industry, and promotion of organizational image to outsiders. Procedural justice measures reflected subordinates' views on fairness of organizational procedures and the fair use of these procedures by supervisors. Perceived organizational support refers to how much respondents believe the organization supports them and values their contributions. The results generated support for a relationship between procedural justice and perceived organizational support and between perceived organizational support and three of the three measured organizational citizenship behaviors. Even with these significant results, the study could not rule out reverse causality between perceived organizational support and perceptions of procedural justice. Regardless of the uncertainty in the study, actions to promote procedural fairness may help reinforce the way a company supports its employees.⁷⁸

Supportive relationships, as experienced by early-career-stage managers, may have a direct effect on later career success.⁷⁹ Among underrepresented groups, such as women and ethnic minorities, Kanter argued that job challenge and supportive

⁷⁶ Moorman, Robert, H., Blakely, Gerald L., Niehoff, Brian P., *Does Perceived Organizational Support Mediate the Relationship between Procedural Justice and Organizational Citizenship Behavior?*, *The Academy of Management Journal*, Vol. 41, No. 3, (June 1998), 351-355.

⁷⁷ Moorman, 350.

⁷⁸ Moorman, 356.

⁷⁹ Kirchmeyer, Catherine *Demographic Similarity to the Work Group: A Longitudinal Study of Managers at the Early Career Stage*, *Journal of Organizational Behavior*, Vol. 16, No. 1 (Jan., 1995), 67-82.

relationships are often lacking for these groups.⁸⁰ In a study of Canadian managers, demographic characteristics and levels of demographic similarity to their work groups were compared against junior managers' job experiences (challenge, work group fit, supervisor support, and mentorship) and organizational support. These experiences were then tested against organizational commitment, promotion, and turnover. The results showed that women and minority members in the sample reported similar job experiences as their male, non-minority counterparts; further managers who were dissimilar to their work group in terms of culture did not experience a lack of negative job experience. However, a junior manager placed in an environment where others are dissimilar in terms of age, education, and lifestyle may experience lower acceptance and greater challenge that could affect his or her chances of career success. In terms of promotion, mentorship proved to be a strong predictor for future career advancement for junior managers. According to the study, the experiences of junior managers suggest the need for greater diversity among senior organizational leadership.⁸¹

3. Mobility and Opportunity

Previous research suggests that employee perceptions of promotion procedures within an organization have a significant effect on the employees' attitudes, behaviors, and motivation. Results from a survey administered to employees of an American medical college showed that perceptions of intra-organizational mobility are related to outcomes such as employee satisfaction and turnover intentions. The study tested four general channels for obtaining a promotion within an organization; two considered performance-based (exceptional performance and reliable performance) and two qualify as personal characteristics (e.g. race and gender), and luck and favoritism. Most workers equate "good work" with promotion opportunities but their definition for "good work" is seen as a function of reliable effort (trying hard despite the outcome) or exceptional accomplishment (achieving results regardless of effort). Beehr and Taber proposed that employees who perceive exceptional and reliable performance to be important factors in

⁸⁰Kirchmeyer, Catherine *Demographic Similarity to the Work Group: A Longitudinal Study of Managers at the Early Career Stage*, Journal of Organizational Behavior, Vol. 16, No. 1 (Jan., 1995), 67.

⁸¹ Kirchmeyer, 68.

promotion outcomes, experience satisfaction with promotion opportunities.⁸² Likewise, employees who perceive that sex, race, or luck and favoritism influence promotion decisions, tend to be dissatisfied with promotion opportunities and this in turn, affects their job satisfaction and turnover intentions.

Beehr and Taber's results showed that exceptional performance had the strongest correlation with satisfaction with promotion opportunities while reliable performance had the second strongest.⁸³ Non-performance channels resulted in the weakest relationships with satisfaction and turnover intentions among employees. Because the organization used in the research was not considered highly interdependent with regard to job description, and because the study did not include upper-level managers in the observations, the authors felt that the results would vary among organizations and across samples (e.g., majority versus minority race or ethnicity).⁸⁴

F. CONCLUSION

While a majority of the studies examined here come from civilian research conducted in the areas of turnover and retention, their findings consistently agree with the variables found to be significant in predicting retention among Marine Corps officers. Included among these variables are personal factors (age, rank, marital status, etc.), job satisfaction, and organizational commitment. However, because of the complexity of the military environment, certain variables may have a more significant effect on retention behavior than earlier findings indicate. These variables include deployments, psychological factors shaped by the work environment, military leadership, and war. Although it is true that these factors may have similar effects on personnel despite race and gender, the decision to leave or stay the military remains complicated at best, and very much dependent on individual experiences and perceptions.⁸⁵

⁸² Beehr, Terry A., and Taber, Tom D., *Perceived Intra-Organizational Mobility: Reliable Versus Exceptional Performance as Means to Getting Ahead*, Journal of Organizational Behavior, Vol. 14, No. 6 (Nov., 1993), 579-593.

⁸³ Beehr, 588.

⁸⁴ Beehr, 580.

⁸⁵ General Accounting Office, "Military Personnel: First Term Personnel Less Satisfied With Military Life than Those in Mid-career," GAO-02-200, 2001, 2.

Although previous studies on racial and ethnic diversity are often inconsistent in their findings, researchers seem to agree that many conditions shape job satisfaction, which in turn may affect the attitudes of military personnel. In an environment where perception can easily be confused with reality, what a person believes to be true, whether true or not, may be a significant precursor to overall job satisfaction and a strong predictor of intention to stay. The changing demographics of the U.S. population and the increased participation in the military by minorities introduce new variables into the retention equation that require further study. Retention of skilled personnel is especially important to the military, and while some turnover is expected and inevitable, the Marine Corps is very concerned with minimizing the effects of voluntary turnover through existing processes and programs.

III. DATA, SAMPLES, AND PRELIMINARY ANALYSIS

A. INTRODUCTION

This chapter describes the approach used to study the relationship between work-related perceptions and turnover in the Marine Corps, focusing on Hispanic officers and enlisted personnel. Included in this chapter are: (1) a discussion of the data source and data collection methods; (2) a description of the samples; (3) a description of variables used to analyze the intent-to-stay and career intentions; (4) preliminary analysis and descriptive statistics.

B. DATA SOURCE

The survey data used in this study were provided by the Defense Manpower Data Center (DMDC). The *2002 Status of Armed Forces Surveys: Workplace and Gender Relations* (2002 WGR) form was administered via Web-based and paper-and-pencil surveys between December 2001 and April 2002 for the Office of the Under Secretary of Defense for Personnel and Readiness. The 90-item questionnaire was designed primarily to assess the gender-integrated working environment but also contains measures for “general workplace issues” intended to capture service-members' perceptions with regards to working experiences, relations, and leadership in the military environment.⁸⁶ It seeks to reveal workplace characteristics and career satisfaction and, more importantly, intentions to stay in the military. These items on the questionnaire make it an appropriate source of data for the present study.

C. SAMPLES

Of 56,521 eligible active duty military personnel in the Army, Navy, Marine Corps, Air Force, and Coast Guard, the random canvassing yielded a 36 percent response rate, with 19,960 completed and useable surveys. The population sampled was limited to active duty service members from the most junior enlisted pay grade (E-1) to the highest field grade officer pay grade (O-6), with a minimum of six months active duty service at the time the survey was administered. Survey participants were deemed ineligible if they did not appear in DMDC's May 2001 Active Duty Master File (ADMF) or in the Medical

⁸⁶ Willis, Elizabeth J., and Lipari, Rachel N., 2002 Status of the Armed Forces Surveys: Workplace and Gender Relations: Administration, Datasets, and Codebook. (DMDC, Arlington, VA May 2002),1-12.

Point in Time (PIT) file in the Defense Enrollment Eligibility Reporting System (DEERS) database.⁸⁷

The present study attempts to investigate the relationship between perceptions of inequity in the workplace, perceptions of intra-organizational mobility, and perceptions of organizational support and their relationship to the intent of junior officers to stay beyond their first term of obligated service following commissioning. Because the literature supports the relationship between intent and actual retention behavior, intent to either stay or make the military a career is treated as a voluntary “decision” made by the respondents in the survey to either stay or complete a career.⁸⁸ The terms “retention intent” and “retention” are used interchangeably in this study. Of equal importance is discovering whether these perceptions differ for Hispanic officers when compared to other ethnic/racial groups.

A term of obligated service usually means a service commitment lasting between three to eight years. Unfortunately, the collapsed categories and recoded variables constructed to preserve respondent confidentiality, such as those used to represent actual active duty time, imposed further restrictions on the data. These limitations made it difficult to isolate the junior officers within the appropriate commissioned service time necessary for this study. On average, promotion to the pay grade of O-4 occurs at the ten-year mark and is considered a milestone, representing an officer’s decision to stay past an initial term of obligated service. Restricting the population based on active duty time was not feasible, since the survey draws no distinction between commissioned service and prior-enlisted service. It is possible that officers included in the sample may have less than ten years of commissioned service, but report more than ten years of total active duty service, due to prior-enlisted commitments. Since this is the case for 16.5 percent of the junior officers, to prevent the loss of any of these observations, it was necessary to include respondents with more than ten years of active duty service.

In order to model the probability of a junior officer staying beyond an initial term of obligated service, career intentions are analyzed. A Marine indicating intention of

⁸⁷ The PIT database contains information on eligibility for medical and other benefits. A little over 6 percent of the sample was eliminated because it did not meet these criteria.

⁸⁸ Mobley et al., 1979.

staying to complete a military career is assumed to be willing to stay beyond an initial term of obligated service. When studying career decisions, it was also necessary to restrict observations to service-members with less than twenty years of total active-duty service, since the survey considered a “career” as completing twenty years of active-duty service. For officers, 55 percent had less than six years of active duty while 28 percent reported that they fell in the six to-less than-ten-year-bracket and only 17 percent reported having more than ten years of active duty service but no more than twenty.

For the purposes of this study, the sample was further restricted to Marine Corps respondents, totaling 3,060. To effectively study the relationship between perceptions of the organization and their potential effect on retention and career decisions, an officer model and an enlisted personnel model were used in this study. The observations presented in Table 1 included both male and female enlisted personnel in the pay grades of E-1 through E-9 and the junior officer grades of O-1 through O-3. Including enlisted personnel in the analysis makes comparisons possible between the effect of perceived inequity, organizational support, and intra-organizational mobility on retention of this group with the officer sample. The approach is warranted since a majority of Marines selected to participate in enlisted-to-officer programs come from the E-1 through E-6 enlisted ranks. Therefore, it is important to also consider the responses from this demographic group because they will continue to play a key role in the future leadership of the Marine Corps.

After screening for non-respondents and erroneous or missing data, then deleting these from the sample, 2,166 total observations remained for use in the analysis. Final respondent characteristics contained in Table 4 show that junior officers (O-1 through O-3) make up only 21 percent of the sample. Hispanics account for 9.1 percent of the officers and 15.5 percent of the enlisted sample used in the analysis. This is a slightly higher percentage compared to the 2004 national Hispanic population of 14.2 percent.⁸⁹ The majority of the sample is enlisted white males who are married and have less than six years of total active duty time.

⁸⁹ 2004 American Community Survey Data Profile Highlight, accessed from <http://www.census.gov/pubinfo/www/NEWhispML1.html>, February 2006.

Table 4. Marine Corps Survey Respondent Characteristics, Final Sample

Officer and Enlisted (N=2,166)				
Pay Grade	Number		Percent	
E1 – E4	781		36.1	
E5 – E9	924		42.6	
O1 – O3	461		21.3	
Total	2,166		100.0	
	Officer (O1-O3)		Enlisted (E1-E9)	
Gender	Number	%	Number	%
Male	251	54.5	930	54.5
Female	210	45.5	775	45.5
Total	461	100.0	1,705	100.0
Race/Ethnic Group				
White	356	77.2	997	58.5
Black	29	6.3	265	15.5
Hispanic	42	9.1	287	16.8
Other	34	7.4	156	9.2
Total	461	100.0	1,705	100.0
Education				
GED/ High School Diploma ⁹⁰	0	0	781	45.8
2-yr college degree	11	2.4	851	49.9
4-yr college degree/Masters	450	97.6	73	4.3
Total	461	100.0	1,705	100.0
Marital Status				
Married	253	54.9	949	55.7
Single	208	45.1	756	44.3
Total	461	100.0	1,705	100.0
Active Duty Time				
Less than 6 years	254	55.1	977	57.3
6 to less than 10 years	131	28.4	258	15.1
10 to less than 20 years	76	16.5	470	27.6
Total	461	100.0	1,705	100.0

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

As in previous studies on retention, results from this study indicate the retention decisions vary according to rank, race, and gender.⁹¹ The number and percentages of service members indicating a decision to stay or continue a career are shown in Table 5.

⁹⁰ The officer column contains a zero (0) for “high school diploma” because only the highest educational achievement is measured by the survey. Officers must have a college degree to receive a military commission, therefore it is assumed that 100 percent of officers are high school graduates.

⁹¹ Stewart, J.B., and Firestone, J. M., “Looking for a Few Good Men?: Predicting Patterns of Retention, Promotion, and Accession of Minority and Women Officers,” Defense Equal Opportunity Management Institute, Patrick AFB, FL, 1989.

As seen here, differences are found between the stay and career decisions for male officers as compared with enlisted males. The inability to isolate the target population (junior officers with less than 10 years of commissioned service), coupled with a small officer and female sample, and an even smaller Hispanic sample necessitated the inclusion of observations for enlisted personnel. This however makes the analysis more interesting since literature has shown retention behavior to differ between officers and enlisted personnel.⁹²

Table 5. Number and Percentage of U. S. Marines who State they will Stay in the Service or Continue a Career, By Gender and Officer/Enlisted Status, 2002.

Pay Grade and Gender	Stay (%)	Leave (%)	Career (%)	Leave (%)
<i>Officers (O1-O3)</i>				
<i>Male</i>	70.1	29.9	62.2	37.8
<i>Female</i>	52.4	47.6	40.0	60.0
<i>Enlisted (E1-E4)</i>				
<i>Male</i>	35.0	65.0	33.4	66.6
<i>Female</i>	32.6	67.4	30.2	69.8
<i>Enlisted (E5-E9)</i>				
<i>Male</i>	72.7	27.3	81.6	18.4
<i>Female</i>	67.5	32.5	72.6	27.4

Source: Author, from data provided by the (SOAF: WGR 2002) Survey. ⁹³

D. VARIABLE DESCRIPTIONS

The original DMDC data file contained 675 variables that were reduced to 18 explanatory variables used to analyze the decision to stay in the military and the decision to choose a military career. Both the dependent and independent variables were recoded as binary or “dummy” variables. Table 6 lists the dependent and independent variables and their description.

⁹² U.S. General Accounting Office. (December 2001). Military Personnel: First-term Personnel Less Satisfied with Military Life than those in Mid-Career. Washington, D.C.: Government Printing Office.

⁹³ “Stay” refers to intent to stay in the military while “Career” refers to intending to complete a 20-year career in the military. “Leave” refers to all those intending otherwise. The percentages refer to the proportion of those intending to stay or make a career out of that sub-group.

Table 6. Variable Descriptions

<i>Variable Description</i>	<i>Name</i>	<i>Type</i>	<i>Range</i>
Dependent variables			
Whether likely a Marine chooses to stay in military	STAY	Binary	=1 if likely to stay =0 if otherwise
Whether likely a Marine would choose to serve for at least 20 years	CAREER	Binary	=1 if likely to serve 20 yrs =0 if otherwise
Independent Variables			
Personal Characteristics			
Gender	FEMALE	Binary	=1 if female =0 if otherwise
Marital Status	SINGLE	Binary	=1 if single =0 if otherwise
Race/Ethnicity			
Hispanic	HISP	Binary	=1 if Hispanic =0 if otherwise
Black /African American	BLACK	Binary	=1 if African American =0 if otherwise
Asian/Native American/Alaska Native/Pacific Islander/Other race	OTHRACE	Binary	=1 if other race/ethnicity =0 if otherwise
Pay Grade			
E1 – E3	JRENLISTED	Binary	=1 if E1-E4 =0 if otherwise
O1 – O3	COGRADE	Binary	=1 if pay grade is O1-O3 =0 if otherwise
Education			
Completed 4-yr College Degree	DEGREE4	Binary	=1 if 4-yr college graduate =0 if otherwise
Active Duty Time			
Active duty time is 6 yrs to less than 10 yrs	MEDTIME	Binary	=1 if AD time is 6 -10 yrs =0 if otherwise
Active duty time is 10 yrs to less than 20 yrs	LONGTIME	Binary	=1 if AD time is 10-20 yrs =0 if otherwise
Work Experiences			
Mentor while in the military	MENTOR	Binary	=1 if not had a mentor =0 if otherwise
Opportunity			
Opportunity for Professional development	PROFDEVOPP	Binary	=1 if dissatisfied =0 if otherwise
Opportunity to do best at work	WORKOPP	Binary	=1 if disagree =0 if otherwise
Present assignment good for military career	ASSIGN	Binary	=1 if disagree =0 if otherwise
Equity			
Level of care shown by supervisors for subordinates	SUPCONCERN	Binary	=1 if not satisfied =0 if otherwise
Trust supervisor to deal fairly with issues at work	TREATMENT	Binary	=1 if disagree =0 if otherwise
Personal opinions seem to count at work	OPINION	Binary	=1 if disagree =0 if otherwise
Job opportunity/promotion depends only on work-related characteristics	PERF	Binary	=1 if disagree =0 if otherwise

<i>Variable</i>	<i>Name</i>	<i>Type</i>	<i>Range</i>
Support			
Someone at work encourages Personal development	ENCOURAGE	Binary	=1 if disagree =0 if otherwise
Someone at work cares about me as a person	CARE	Binary	=1 if disagree =0 if otherwise
Someone at work has talked to me about my progress (last 6 months)	PROGRESS	Binary	=1 if disagree =0 if otherwise

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

1. Dependent Variables

The “stay” decision is recoded as a binary variable taking on the value of one (1) if a respondent answered “likely” or “very likely” to the question, “assuming you could stay on active duty, how likely is it that you would chose to do so?” Otherwise, the dependent variable “stay” takes on the value of zero (0). For the purposes of this study, the self-reported likelihood of staying is treated as an indication of intention to stay, while those responding with an “unlikely” or “very unlikely” to the question are considered to intend to leave. The voluntary decision to stay in the military is also measured by observing the intent to choose a military career. If an officer indicates that he or she would “choose to serve in the military for at least 20 years,” it is safe to assume this person is not planning to leave the service voluntarily and has an increased likelihood of staying past his/her initial term of obligated service as compared to someone who indicates they would not choose a military career. If a Marine responded “likely” or “very likely” to choose to serve for at least twenty years, the dependent variable “career” took on a one (1) or a zero (0), if otherwise. Again, persons indicating a higher probability of staying for a military career are considered as having chosen to stay for a career.

2. Independent Variables

The explanatory variables are categorized according to personal characteristics, including gender, marital status, race/ethnic group, pay grade, active duty service time, education, and military experience factors. Focus variables are categorized according to survey responses regarding perceptions of intra-organizational mobility also referred to as advancement opportunities, equity in the workplace, and organizational support. Items in the survey measure responses according to yes/no categories and also through the

satisfaction response format and the agree format. All three response formats range from one (1) to five (5). The lower part of the range corresponds to a “strongly disagree” response or a “very dissatisfied” response. The high end of the scale corresponds to a “strongly agree” response, or a “very satisfied” response. In this study, a respondent is considered to have a negative perception if he or she indicates a “disagree,” “strongly disagree,” “dissatisfied,” or “very dissatisfied” response. Finally, because several variables in the survey fit into the similar work-related perception categories, it was necessary to reduce their number based on the possibility that they measure similar attributes.

E. PRELIMINARY ANALYSIS

The models used for the analyses are based on previous literature on turnover and military personnel retention. This section includes basic descriptive statistics which are meant to facilitate the discussion on the methodology, model development, and results of the analysis. Results of preliminary analysis and their discussion are also included in this section.

1. Marine Officers

There are 461 junior officers, making up 21.3 percent of the sample, used in the analysis. Of these officers, 62 percent indicated they would “likely” or “very likely” choose to stay in the military if afforded the opportunity. As in previous results from retention studies, intent to stay in this analysis varies according to gender and race/ethnicity. As indicated in Table 7, a higher percentage of men indicate they would choose to stay (70.1) as compared to the percentage of women (52.4) indicating the same. Although it is difficult to pinpoint the influences on the intent to stay in the military for women, several studies have suggested their lower retention percentage may be linked to a desire to start a family or pursue other interests.⁹⁴

When looking at the retention of Marine officers, blacks are the most likely to plan to stay and Hispanics have the second largest percentage of stayers. As in other studies, retention rates for black women surpass those for black men.⁹⁵ This reported

⁹⁴ Hosek, S. D, Tiemeyer, P., Kilburn, R., Strong, D. A., Ducksworth, S., & Ray, R. (2001). *Minority and Gender Differences in Officer Career Progression* (RAND No. MR-1184-OSD). Santa Monica, CA: RAND Corporation.

⁹⁵ Ibid.

difference may be in partly related to perceptions of better career opportunities in the military. Among women, the percentage of Hispanic women who intend to stay (66.7 percent) is lower than the self-reported stay intention rate of black women of 72.2 percent but larger than the percentage of whites or other racial minorities.

Table 7. Percentage of U. S. Marine Officers Who State Intentions to Stay in the Service, by Gender and Race/Ethnicity

All Officers (O1 – O3)			Stay (%) 62.0				Leave (%) 38.0			
	Combined		White		Hispanic		Black		Other	
Gender	Stay (%)	Leave (%)	Stay (%)	Leave (%)	Stay (%)	Leave (%)	Stay (%)	Leave (%)	Stay (%)	Leave (%)
Male	70.1	29.9	69.8	30.2	72.2	27.8	81.8	18.2	64.7	35.3
Female	52.4	47.6	48.3	51.7	66.7	33.3	72.2	27.8	47.1	52.9

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

When asked about the likelihood of staying for a career in the military, 52 percent of the officers indicated they would “likely” or “very likely” chose a career. Table 8 shows that among officers, stay/leave and career intentions once again vary by race and gender. The percentages of those intending to complete a military career are lower than those intending to stay for an undetermined amount of time, for both men and women. Although 52 percent of junior officers indicated intent to stay in the military for a 20-year career, a larger proportion of men (62.2 percent) indicated they would choose a military career with only 40 percent of women doing so. This difference may also indicate women are interested in pursuing interests outside of the military or it may be related to other factors shown to influence retention such as job satisfaction or promotional opportunities.⁹⁶

⁹⁶ Pecenco, Elena, G., *The Retention of Female Unrestricted Line Officers*, Naval Postgraduate School, Monterey, CA, 2005; 10.

Table 8. Percentage of U. S. Marine Officers Who State Intentions to Complete a Career in the Service, by Gender and Race/Ethnicity

All Officers (O1-O3)			Career (%) 52.0				Leave (%) 48.0			
Gender	Combined		White		Hispanic		Black		Other	
	Career (%)	Leave (%)	Career (%)	Leave (%)	Career (%)	Leave (%)	Career (%)	Leave (%)	Career (%)	Leave (%)
Male	62.2	37.8	62.0	38.0	72.2	27.8	72.7	27.3	41.2	58.8
Female	40.0	60.0	37.1	62.9	33.3	66.7	72.2	27.8	41.2	58.8

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

The pattern is similar for male officers. Among minorities, 72.7 percent of black men indicated they would choose a career. They were followed by Hispanic men and whites with 72.2 percent and 62 percent choosing a career. For women officers, 72.2 percent of blacks indicated a strong likelihood of completing a military career as compared to only 33.3 percent of Hispanic women and 37.1 percent of whites followed by 41.2 percent for women belonging to other races/ethnicities. The high percentage of black women intending to stay may be related to a positive perception of opportunities in the military.

2. Enlisted Marines

Enlisted personnel make up 78.7 percent of the sample, totaling 1,705 observations. The pattern for those indicating they were “likely” or “more likely” to stay in the enlisted personnel ranks is similar to the pattern in the officer ranks but their proportions are smaller. Table 9 shows a smaller proportion of enlisted male and female personnel (E1-E9) indicated intent to stay in the military as compared to officers. As expected, stated intentions for staying in the military also vary by rank and gender among enlisted personnel. A higher proportion of senior enlisted (E5-E9) men and women indicate intentions of staying as compared to junior enlisted (E1-E3) men and women. Hispanic junior enlisted men and women have the second largest percentage planning to stay among racial/ethnic groups.

Table 9. Percentage of U. S. Marine Enlisted Personnel who State Intentions to Stay in the Service, by Pay Grade, Gender, and Race/Ethnicity

All Enlisted (E1-E9)		Stay (%) 53.6		Leave (%) 46.4	
Pay Grade	All	White	Hispanic	Black	Other
(E1-E4)	Stay (%) Leave (%)	Stay (%) Leave (%)	Stay (%) Leave (%)	Stay (%) Leave (%)	Stay (%) Leave (%)
Male	35.0 65.0	32.5 67.5	42.0 58.0	40.5 59.5	32.5 67.5
Female	32.6 67.4	32.2 67.8	33.8 66.2	26.3 73.7	41.0 59.0
(E5-E9)					
Male	72.6 27.4	71.7 28.3	68.2 31.8	78.7 21.3	76.3 23.7
Female	67.5 32.5	65.0 35.0	69.0 31.0	77.0 23.0	56.4 43.6

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

As shown in Table 9, a higher proportion of Hispanic men (42 percent) in the junior enlisted ranks indicated intentions of staying in the military as compared to junior enlisted whites (32.5 percent). The percentage of Hispanic junior enlisted men indicating a likelihood of staying is also higher than the percentage of black males indicating intentions to stay (40.5). In the case of junior enlisted women, Hispanics indicated the second highest proportion of intent to stay (33.8 percent) with those in the “other” group reporting the highest percentage of intent to stay—41 percent. A higher percentage of senior enlisted blacks reported they would stay in the military as compared to other racial/ethnic groups. Hispanic senior enlisted women indicated the second highest intent to stay in the military (69 percent) among racial/ethnic groups. Senior enlisted black women showed the greatest intent to stay, at 77 percent. In most cases, racial/ethnic minorities report a higher intent to stay when compared to white men and women, perhaps because these groups believe the military provides a better working environment when compared to the civilian sector.

The self-reported intentions to complete a career in the Marine Corps are considerably higher than the percentages reported by officers as shown in Table 10. This same table (Table 10) also shows that senior enlisted personnel report a higher intent to stay as compared to junior enlisted. This of course is to be expected since Marines in the pay grades of E5-E9 have invested more of their time in their career and are therefore

more likely to stay to complete a career. On the other hand, most junior enlisted personnel are in their first enlistment term which may be too early for them to make such a commitment or they may have different goals in mind not involving the military and are therefore more reluctant consider a career.

Table 10. Percentage of U. S. Marine Enlisted Personnel who State Intentions to Complete a Career in the Service ,by Pay Grade, Gender, and Race/Ethnicity

All Enlisted (E1-E9)		Career (%)		Leave (%)	
		56.6		43.4	
Pay Grade	<i>All</i>	<i>White</i>	<i>Hispanic</i>	<i>Black</i>	<i>Other</i>
(E1-E4)	Career Leave	Career Leave	Career Leave	Career Leave	Career Leave
	(%) (%)	(%) (%)	(%) (%)	(%) (%)	(%) (%)
<i>Male</i>	33.4 66.6	34.0 66.0	34.6 65.4	38.1 61.9	22.5 77.5
<i>Female</i>	30.2 69.8	32.2 67.8	33.8 66.2	17.5 82.5	33.3 66.7
(E5-E9)					
<i>Male</i>	81.6 18.4	80.1 19.9	74.2 25.8	93.3 6.7	84.2 15.8
<i>Female</i>	72.6 27.4	71.7 28.3	69.2 30.8	82.4 17.6	61.5 38.5

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

Among race/ethnic groups, both black men and black women show the highest likelihood of staying in the military to complete a 20-year career for junior enlisted personnel. Results indicate that Hispanic men in the junior enlisted pay grades have thought of completing a career at higher rates than other race/ethnic groups, with the exception of black men. The patterns in self-reported intent within these pay grades are consistent with the other studies' findings which suggest blacks and Hispanics have higher retention rates than whites.⁹⁷

F. BIVARIATE ANALYSIS FOR STAY AND CAREER INTENTIONS

Statistics for the bivariate analyses of intent to stay and intent to complete a military career are displayed in Table 11 and Table 12. These include, by each explanatory variable, the proportion of Marines indicating intent to stay in the military and the proportion Marines intending to complete a career in the military. Results of Chi-square test of independence are also reported. The baseline variables, also known as the

⁹⁷Hosek, S. D, Tiemeyer, P., Kilburn, R., Strong, D. A., Ducksworth, S., & Ray, R., *Minority and Gender Differences in Officer Career Progression* (RAND No. MR-1184-OSD). Santa Monica, CA: RAND Corporation, 2001.

“base case,” are included for comparison in the categories of gender, marital status, race/ethnicity, pay grade, and education. The education variables include HIGHSCHOOL and DEGREE2 which are used to identify high school graduates and two-year degree completers. In the active duty category, SHORTTIME refers to persons with less than 6 years of active duty service and in the category for pay grade. Finally, SRENLISTED refers to enlisted personnel in the pay grades of E-5 through E-9.

1. Bivariate Results for Intention to Stay

The bivariate results for the intention to stay model indicate that a higher proportion of men indicated intent to stay in the military as compared to women. This is consistent with the hypothesized effects of gender on retention. Those who are married also showed a higher likelihood of staying as compared to single service members. Although whites are the largest race/ethnicity in the sample, they had a lower percentage of those intending to stay (54.3 percent) as compared to Hispanics who had 55.6 percent and blacks who reported 62.2 percent. Marines belonging to other races/ethnicities had the lowest percentage of intent to stay, at 52.1 percent.

Differences in the intent to stay are also evident according to pay grade. A lower percentage (33.9 percent) of junior enlisted personnel indicated a decision to stay as compared to 70.2 percent of senior enlisted personnel who intended to stay in the military. Officers had a slightly lower intent to stay (62 percent) as compared to senior enlisted. The intent to stay, also varied by total active duty time. As compared to the baseline, Marine with less than six years of active duty service, 84.2 percent of Marine officers with more than ten years active duty service intended to stay in the military while 81.3 percent of enlisted personnel indicated intentions to stay in the military.

Table 11. Explanatory Variables by Intentions to Stay

Variable	Officers (O1-O3)		Enlisted (E1-E9)	
	Stay %	Leave %	Stay %	Leave %
Gender***				
FEMALE	52.4	47.6	52.1	47.9
MALE (base case)	70.1	29.9	54.9	45.2

Variable	Stay %	Leave %	Stay %	Leave %
<i>Marital Status***</i>				
SINGLE	56.7	43.3	40.9	59.1
MARRIED (base case)	66.4	33.6	63.8	36.2
<i>Race/Ethnicity*</i>				
WHITE (base case)	60.7	39.3	52.1	47.9
HISP	69.1	30.9	53.7	46.3
BLACK	75.9	24.4	60.8	39.2
OTHRACE	44.1	55.9	51.3	48.7
<i>Pay Grade***</i>				
JRENLISTED	-	-	33.9	66.1
SRENLISTED (base case)	-	-	70.2	29.8
COGRADE	62.0	38.0	-	-
<i>Education***</i>				
HIGH SCHOOL (base case)	0.0	0.0	50.5	49.5
DEGREE2	90.9	9.1	55.8	44.2
DEGREE4	61.3	38.7	61.6	38.4
<i>Active Duty Time***</i>				
SHORTTIME (base case)	56.3	43.7	36.2	63.7
MEDTIME	60.3	39.7	69.0	31.0
LONGTIME	84.2	15.8	81.3	18.7
<i>Work Experience</i>				
MENTOR***	46.3	53.7	46.7	53.3
<i>Intra-organizational Mobility</i>				
PROFDEVOPP***	48.4	51.6	42.9	57.1
WORKOPP***	48.3	51.7	43.1	57.9
ASSIGN***	50.3	49.7	42.4	57.6
<i>Inequity</i>				
SUPCONCERN***	49.1	50.9	44.4	55.6
TREATMENT***	52.6	47.4	46.0	54.0
OPINION***	55.1	44.9	41.9	58.1
PERF***	57.1	42.9	49.4	50.6
<i>Support</i>				
ENCOURAGE***	44.0	56.0	48.5	51.5
CARE***	48.8	51.2	47.8	52.2
PROGRESS***	55.2	47.8	50.1	49.9

*** Chi-Sq statistic significant at the .01 level ** Chi-Sq statistic significant at the .05 level

* Chi-Sq statistic significant at the .10 level

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

Intentions of staying in the military vary according to education level. Enlisted Marines with a high school degree as their highest level of educational achievement had a lower percentage of “stayers” at 50.5 percent as compared to 61.6 percent of college graduates who showed intent to stay in the military. For officers, 61.3 of those with a 4-

year degree indicated intentions to stay. Both officer and enlisted Marines who claimed they did not have a mentor also indicated a lower percentage of intent to stay as compared to the base case which includes Marines who have or have had a mentor in the military.

Finally, the percentage of stayers varied according to perceptions of intra-organizational mobility, inequity/equity, and organizational support. When compared to those satisfied with advancement opportunities, enlisted Marines who are dissatisfied had a smaller percentage indicating intentions to stay. Nearly half of Marines who perceive inequity in the workplace showed intentions of staying. About half of Marines dissatisfied with the level of organizational support, also showed intent to stay in the Marine Corps.

The p-values of the Chi-square tests for independence show that gender, education, marital status, pay grade, and active duty time, have a significant association to the dependent variable, “stay.” This, of course, is consistent with literature which suggests that these factors have an effect on retention intent and retention behavior.⁹⁸ The same can be said about ethnic or racial group variables. Their Chi-Square tests for independence show that race and ethnicity are weakly associated with the dependent variable, stay. Focus variables which include intra-organizational mobility, also known as opportunity, perceptions of equity, and support perceptions also show association with the dependent variable as their Chi-Square statistics have p-values of less than .01.

2. Bivariate Results for Career Intentions

The self-reported intentions for military career are shown in Table 12. A higher percentage of men indicate they would complete 20 years in the Marine Corps as compared to a slightly lower percentage of women. As expected, marital status affected intentions of completing a military career. A lower percentage of single Marines indicated intentions of completing a military career as compared to the base case of married Marines. As was seen in the decision to stay, a higher percent of black officers indicated intent to complete a career (72.4 percent) as compared to white officers (51.7 percent). Although a smaller number percentage of Hispanic officers (50 percent)

⁹⁸ Stewart, J.B., and Firestone, J. M., “Looking for a Few Good Men?: Predicting Patterns of Retention, Promotion, and Accession of Minority and Women Officers,” Defense Equal Opportunity Management Institute, Patrick AFB, FL, 1989.

indicated intent to compete a career as compared to whites and blacks, their percentage was still higher than those Marines of other races/ethnicities who had the lowest percentage (41.2 percent).

A significantly higher percentage of senior enlisted personnel indicated intent to complete a military career (77.4 percent) than did junior enlisted personnel (32 percent) and officers (52.1 percent). As hypothesized, a higher percentage of Marines with 10 years or more of active duty time indicated intent to complete a career than the base case made up of those Marines with more than six years active duty time but less than ten years. Enlisted Marines with more than 10 years of active duty time had a higher percentage (93.6 percent) showing intentions of completing a career when compared with officers (52.1).

Forty-two percent of Marine officers who reported not having a mentor while in the military, also indicated intentions of completing a career. Among Marines dissatisfied with their professional development opportunities or their assignments at the time of the survey, less than half indicated intentions of completing a military career. Again, less than half of Marines dissatisfied with the degree of equity/inequity in the workplace or the level of organizational support indicated they would stay in the military to complete a career.

Table 12. Explanatory Variables by Career Intention

Variable	Officers (O1-O3)		Enlisted (E1-E9)	
	Career %	Leave %	Career %	Leave %
<i>Gender***</i>				
FEMALE	40.0	60.0	53.9	46.1
MALE (base case)	62.2	37.8	58.8	41.2
<i>Marital Status***</i>				
SINGLE	40.4	59.6	41.8	58.2
MARRIED (base case)	61.7	38.3	68.4	31.6
<i>Race/Ethnicity*</i>				
WHITE (base case)	51.7	48.3	56.6	43.4
HISP	50.0	50.0	53.0	47.0
BLACK	72.4	27.6	64.5	35.5
OTHRACE	41.2	58.8	50.0	50.0
<i>Pay Grade***</i>				
JRENLISTED	-	-	32.0	68.0
SRENLISTED (base case)	-	-	77.4	22.6
COGRADE	52.1	47.9	-	-

Variable	Career %	Leave %	Career %	Leave %
<i>Education***</i>				
HIGH SCHOOL (base case)	0.0	0.0	52.8	47.2
DEGREE2	72.7	27.3	58.9	41.1
DEGREE4	51.6	48.4	71.2	28.8
<i>Active Duty Time***</i>				
SHORTTIME (base case)	37.8	62.2	35.4	64.6
MEDTIME	61.1	38.9	69.4	30.6
LONGTIME	84.2	15.8	93.6	6.4
<i>Work Experience</i>				
MENTOR***	42.7	57.4	47.5	52.5
<i>Intra-Organizational Mobility</i>				
PROFDEVOPP***	38.7	61.3	44.4	55.6
WORKOPP***	39.1	60.9	44.5	55.5
ASSIGN***	44.1	55.9	44.7	55.3
<i>Inequity</i>				
SUPCONCERN***	38.3	61.7	45.8	54.2
TREATMENT***	46.6	53.5	48.3	51.7
OPINION***	46.4	53.6	42.2	57.8
PERF***	48.1	51.8	52.2	47.8
<i>Support</i>				
ENCOURAGE***	39.7	60.3	49.8	50.2
CARE***	44.8	55.2	48.6	51.4
PROGRESS***	49.1	50.9	54.6	45.4

*** Chi-Sq statistic significant at the .01 level ** Chi-Sq statistic significant at the .05 level

* Chi-Sq statistic significant at the .10 level

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

The bivariate analysis of Career intentions (Table 12) also shows that the decision to stay in a 20-year career is associated with gender and whether a person is married or not. Also, having a college degree or belonging to a racial/ethnic group is related to the career decision. Finally, all of the work-related perceptions have significant Chi-square p-values of < .01 and can therefore said to be associated with the decision to remain for a 20-year career in the military.

G. CHAPTER SUMMARY

This chapter discusses the data and the processes used to generate the sample and the variables used in the analysis. The preliminary findings and patterns are similar to those in previous studies, suggesting that, among racial/ethnic minorities, Hispanics and blacks tend to have a higher propensity for staying in the military than whites. Minority

officers of both sexes are underrepresented among those choosing to stay and those choosing a career as compared with minority enlisted personnel. The results show that Hispanic officers have a higher proportion of those choosing to stay as compared to blacks. However, among women officers, blacks are more likely than Hispanics to choose a military career. The results also show that intentions to stay and the intention of completing a 20-year career are in most cases associated with personal characteristics such as gender, pay grade, and education as well as with a majority of the work-related perceptions included in the analysis.

IV. METHODOLOGY AND MODEL SPECIFICATION

A. OBJECTIVE

The preliminary analyses in Chapter III show that retention, represented by the self-reported intent to stay and the intentions of completing a military career, vary according to personal characteristics and also according to military background characteristics. Preliminary results also reveal that several of the focus variables are significantly associated with variation in retention. This chapter discusses the multivariate analyses used to study the relationship between the different work-related perception variables and the retention intent represented by stay and career intentions, as well as the response of retention to changes in these variables. The purpose of the analyses is to determine whether these perceptions are valid predictors of a person's intent to stay in the Marine Corps past his or her initial term of obligated service and whether the effects of these perceptions about the military working environment vary by racial/ethnic groups.

B. METHODOLOGY

This study uses a person's self-reported intent to stay on active duty and to complete a 20-year career in determining how much of the variation in retention intent can be explained by the model's variables. These two measures of retention intent are used for both junior officers and enlisted personnel, resulting in a total of four models. As in previous military retention studies, regression models in this analysis are differentiated on the basis of pay grade. However, the nature of the data used in this study prevented the constraining of officer observations on the basis of total active duty service time. To be as accurate as possible, the officers included in this study are limited to junior pay grades (O1-O3). This ensures the focus of this study remains on persons most likely to be faced with the decision to either stay or leave before their promotion to O-4. Of the 461 officer observations, 83.5 percent had 10 years or less of total active duty time.

It is important to include enlisted personnel in the analysis for comparison with the officer group and also because a significant number of Marine Corps officers come from enlisted-to-officer commissioning programs. Looking at the relationship between

the retention intentions and perceptual factors for each one of these groups may provide some insight into the disparity in racial/ethnic representation between the officer and enlisted ranks.

Since the retention decision is dichotomous, logistic regression is used for the multivariate analyses. This approach predicts the log of the odds for the binary dependent variable based on the explanatory variables and also explains the variance in the binary dependent variable as a function of the independent variables.⁹⁹ In this study, binary dependent variables take on a value of ‘1’ (success) if a Marine intends to stay voluntary on active duty or if a Marine intends to complete a career in the Marine Corps. If the Marine responds otherwise, a value of ‘0’ is then used to estimate the predicted probability of success/failure. The linear regression model for both the stay decision and the career decision is represented as:

$$\text{Log} (p / (1-p)) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots \beta_k X_k, \quad (1)$$

Where P is the probability that a Marine stays on active duty or completes a military career, $\beta_1, \beta_2 \dots \beta_k$ are the estimates of the model parameters, $X_1, X_2 \dots X_k$ are independent variables, and k indicates the number of explanatory variables observed for each individual. This yields the equation for the predicted probability of success (staying):

$$P (p=1|X) = \exp (\alpha + \beta_1 X_1 + \beta_2 X_2 + \dots \beta_k X_k) / (1 + \exp (\alpha + \beta_1 X_1 + \beta_2 X_2 + \dots \beta_k X_k)) \quad (2)$$

Survey responses are usually subject to co-variation of variables that may produce unreliable tests of significance for parameter estimates due to strong collinearity. To minimize this effect, factor analysis techniques were successfully used to reduce the number of variables in the model and help to distinguish the variables that belong together based on shared underlying dimensions. This approach facilitated the construction of standardized factor scores that reflected the classification of explanatory variables according to several dimensions of work-related perceptions, including intra-organizational mobility, organizational support, and equity in the workplace. Common Factor Analysis (CFA) employing varimax rotation was used to extract factors and

⁹⁹ “Logistic Regression,” accessed from www2.chas.ncsu.edu, January 2006.

produce factor loadings. A discussion of the variable factor loadings is included in the model specification section of this chapter.

C. THEORETICAL MODEL

Military studies have shown various explanatory factors, including personal characteristics, military demographics and experience, and education level, to have a significant effect on an officer's decision to voluntarily stay or leave the Marine Corps. While literature on turnover in the military has primarily focused on satisfaction with pay, medical benefits, and other economic variables, there is continued support for the theory by Spencer and Steers that suggests work-related perceptions may have equally significant predictive power, with regard to the stay/leave decision, as do economic, quality of life, and family-related factors.¹⁰⁰

Theoretical assumptions of this study are primarily based on literature suggesting that job satisfaction is strongly correlated with the intent to stay or leave an organization and that turnover intentions have significant predictive power for actual turnover behavior.¹⁰¹ Given the results from similar studies, indicating that job satisfaction is a personal assessment based on multiple factors, it can be said that job satisfaction increases for individual's when they perceives equity in the workplace, believes they have organizational support in their pursuits, and have every opportunity to move up within the organization. Therefore, the primary focus of this study is an analysis of the relationship between the focus variables (perceptions of the military working environment) and the voluntary stay/leave decision to see if the effects of these perceptions on the retention decision vary across racial/ethnic groups and to see if they are significant predictors of turnover intent.

D. MODEL SPECIFICATION

The model specification includes explanatory variables found to be statistically significant in predicting turnover behavior in previous studies. These include control variables such as gender, marital status, pay grade, race and ethnicity, education level, as

¹⁰⁰ Spencer, Daniel G., and Steers, Richard M., "The Influence of Personal Factors and Perceived Work Experiences on Employee Turnover and Absenteeism," *The Academy of Management Journal*, Vol. 23, No. 3, (September 1980); 567-572.

¹⁰¹ Mobley, W.H, Griffeth, R.W., Hand, H.H., and Meglione, B.M., "Review and Conceptual Analysis of the Employee Turnover Process," *Psychological Bulletin*, 36, 493-522.

well as military background and experience. Focus variables include responses to survey questionnaire items related to intra-organizational mobility perceptions, perceptions of inequity, and perceptions of organizational support. Both sets of models include interactions between the race/ethnicity variables and the focus, or perception variables. The specification for the regression models are represented as:

STAY= f (Gender, Race/Ethnicity, Pay grade, Marital Status, military background and experience, perceptions of inequity, perceived intra-organizational mobility, perceived organizational support, Interactions between perceptions and race/ethnicity)

(And),

CAREER= f (Gender, Race/Ethnicity, Pay grade, Marital Status, military background and experience, perceptions of inequity, perceived intra-organizational mobility, perceived organizational support, Interactions between perceptions and race/ethnicity)

As is the case with most surveys, the *2002 Status of the Armed Forces Survey* includes a number of different questions used to measure job satisfaction and workplace experiences. A combination of factor analysis techniques and careful consideration of the interpretability of the factors were used to produce reliable estimations of the correlations between the variables and to extract the appropriate number of factors included in the model. Table 13 shows the extracted variables, their factor loadings, and the dimension of work-related perceptions they represent. The table presents respondents' stated level of satisfaction with some questionnaire items and whether they agree or disagree with other items.

Table 13. Rotated Factor Pattern for Focus Variables

Composite Dimensions/ Variable Names	Description	Factor 1	Factor 2	Factor 3
<i>Equity</i>				
TREATMENT	Dis: with level of concern supervisors show for subordinates	X		
SUPCONCERN	Dis: supervisors deal fairly with issues of equal treatment in the workplace	X		
OPINION	Dis: personal opinions “seem to count at” work	X		
PERF	Dis: promotions based on performance	X		
<i>Organizational Support</i>				
ENCOURAGE	Dis: someone at work that encourages personal development		X	
CARE	Dis: someone at work or supervisor “seems to care about me as a person”		X	
PROGRESS	Dis: that “someone at work has talked to me about my progress”		X	
<i>Intra-organizational mobility</i>				
ASSIGN	Dis: with opportunities for professional development			X
WORKOPP	Dis: work provides “opportunity to do what I do best every day”			X
PROFDEVOPP	Dis: present assignment is good for military career			X

“Dis” refers to Disagree and “Disa” refers to Dissatisfied

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

These final loadings represent the variables used when analyzing both the intent to stay and the intent to complete a career. Variables loading on Factor 1 are considered to represent perceptions of inequity in the workplace. Perceptions of organizational support represented by variables loading on Factor 2 and perceptions of intra-organizational mobility are represented by the variables loading on Factor 3.

E. HYPOTHESIZED EFFECTS

Explanatory variables included in this analysis were selected based on literature and the findings of similar studies. The hypothesized effects of these variables on retention behavior were also instrumental in choosing the independent variables for the stay and career models. To compare the hypothesized and actual effects of these variables on retention, it is important to note that the base case used for the comparison is a white, male Marine in the E5-E9 pay grade bracket, who possesses a high school diploma, and is married. The baseline group includes Marines who have positive

perceptions of the working environment. This means they responded as being satisfied with the opportunities to advance within the Marine Corps, satisfied with the degree of organizational support they receive, and they agree there is equitable treatment in the workplace. Table 14 shows the independent variables and their hypothesized relationship to retention behavior differentiated by the stay and career decision between officers and enlisted personnel.

1. Hypothesized Effects of Personal Variables

Several variables are hypothesized to increase retention propensity for both Marine Corps officers and enlisted personnel. As suggested in previous studies, propensity for retention intent is expected to be lower for women as compared with men. This is anticipated due to the fact that some women leave the military to focus on family or to pursue other interests outside of the military. Retention behavior is also affected by other personal factors such as marital status. Being married is expected to have a positive effect on retention intent. On average, married Marines are expected to stay in longer than a single Marine because leaving the military to find a new job places them and their families in a financially uncertain situation. These married Marines may tend to stay with the military's job security and various benefits.

With regard to race/ethnicity, both white officers and white enlisted personnel are expected to also show a lower propensity for retention than do racial minorities. Proportionately more whites than racial/ethnic minorities may feel they have equal opportunities outside of the military. Therefore, the effect of race/ethnicity on retention is expected to be positive for blacks, Hispanics, and Marines in the "other" racial/ethnic groups when compared with whites. While racial/ethnic minorities may tend to see the military as offering a better working environment and better opportunities than found in civilian society, whites (especially white men) may believe they are overlooked (while racial/ethnic minorities receive preferential treatment) regarding assignments and promotions. While this would mitigate the negative expected effect for minority status, it is not expected to be a large enough effect to change the positive expected sign for minority (race/ethnic) status.

Men and women with a strong educational background that includes college and advanced degrees may feel they have a better chance to find better job opportunities once

they leave the military than do junior enlisted personnel with only a high school diploma. It is expected that education will negatively affect retention for both officers and enlisted personnel. Marines with more education are afforded more choices in the civilian labor market and are therefore expected to leave the Marine Corps at a higher rate. It is anticipated that MENTOR will have a negative sign since Marine officers and Marine enlisted who do not have a mentor will be less likely to intend to stay in the military than someone who has a mentor. Marines who do not have someone who can provide them with career advice may feel they are at a disadvantage for promotion and may be more likely to intend to leave.

2. Hypothesized Effects of Focus Variables

Among the focus variables, it is expected that negative perceptions of intra-organizational mobility will have negative effect on retention for both officers and enlisted personnel (Table 14). If a Marine is not satisfied with opportunities for professional development (PROFDEVOPP) or with opportunities to do his or her best at work (WORKOPP), he or she will be less likely to stay than someone who is satisfied. Both Marine officers and enlisted personnel may consider these two variables to be important for promotion opportunities and if they do not feel they are improving their promotion chances by developing professionally, they may be more inclined to leave the Marine Corps. It is also expected that a Marine who thinks his or her current assignment is not good for his or her career (ASSIGN) will be less likely to intend to stay than someone who thinks otherwise. In the Marine Corps, assignments play an important role in the promotion process for officers and enlisted. A Marine who does not feel he or she is competitive for promotion may be more likely to consider leaving the Marine Corps.

Marines who perceive inequity or a lack of fairness in the workplace will tend to be less inclined to stay in the military than those who do not and therefore the signs of these variables are expected to be negative. An officer or enlisted Marine who feels his or her supervisors do not show concern for him or her (SUPCONCERN) or do not deal fairly with issues at work (TREATMENT), may be less likely to intend to stay in the Marine Corps than someone who perceives otherwise. This effect is expected because a Marine who feels he or she is undervalued may be less likely to intend to stay. Marines who do not agree that promotions are based solely on work-related performance (PERF)

may be less likely to intend to stay in the military. This is expected to affect intentions to stay negatively because Marines who perceive that assignments or promotions are influenced by factors other than work-related performance may feel they are at a disadvantage and may be influenced to leave the military. The effects of such perceptions are not expected to be characteristic of all Marines. However, these perceptions may be especially significant for racial minorities who may feel they are at a disadvantage because of their underrepresentation in certain groups within the military.¹⁰²

The same negative effects are expected when an officer or enlisted Marine is dissatisfied with the level of organizational support he or she receives. If a minority officer feels he or she is not supported or advised on his or her progress (PROGRESS), he or she will be more likely to intend to leave than someone who feels the opposite is true. However, while the effects of dissatisfaction with organizational support may negatively influence intentions to stay among race/ethnic minority groups, these effects may also be influential on the intention to stay among whites (especially white men). They would be more inclined to leave the military or forego a military career if they perceive they are being overlooked in the Marine Corps because a minority officer is getting preferential treatment or more attention with regards to his or her progress. It is expected that a Marine who feels he or she is not valued at work (CARE) or who feels his or her professional development is not encouraged (ENCOURAGE), may be more likely to intend to leave. Overall, officers and enlisted personnel who do not feel supported by the Marine Corps or who perceive they lack the support systems necessary for their professional development will have a higher propensity for leaving the Marine Corps than those who perceive otherwise.

¹⁰² Stewart, James B., *The Effects of Discrimination on Job Satisfaction in the Military: Comparing Evidence from the Armed Forces Equal Opportunity Survey and the Military Equal Opportunity Climate Survey*, (RSP-01-5), (Patrick Air Force Base, FL: Defense Equal Opportunity Management Institute, 2001).

Table 14. Hypothesized Effects of Variables on the Intent to Stay in the Military and Intent to Complete a Military Career

<i>Variable</i>	Expected Sign		Expected Sign	
	Officer		Enlisted	
<i>Gender</i>	Stay	Career	Stay	Career
FEMALE	-	-	-	-
<i>Marital Status</i>				
SINGLE	-	-	-	-
<i>Race/Ethnicity</i>				
HISP	+	+	+	+
BLACK	+	+	+	+
OTHRACE	+	+	+	+
<i>Education</i>				
DEGREE4	-	-	-	-
<i>Active Duty Time</i>				
MEDTIME	+	+	+	+
LONGTIME	+	+	+	+
<i>Work Experience</i>				
MENTOR	-	-	-	-
<i>Opportunity</i>				
PROFDEVOPP	-	-	-	-
WORKOPP	-	-	-	-
ASSIGN	-	-	-	-
<i>Equity</i>				
SUPCONCERN	-	-	-	-
TREATMENT	-	-	-	-
OPINION	-	-	-	-
PERF	-	-	-	-
<i>Support</i>				
ENCOURAGE	-	-	-	-
CARE	-	-	-	-
PROGRESS	-	-	-	-

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

F. CHAPTER SUMMARY

Literature on turnover and retention of military personnel provides a basis for this study. Because retention is defined as either staying or leaving (success/failure), a logit function is used in the multivariate regression analysis. The explanatory variables included in this study were chosen based on their theoretical justification and preliminary analysis of influences on retention intent. These variables included personal factors, military background variables, and work experience variables. Focus variables include work-related perceptions such as equity in the workplace, organizational support, and

intra-organizational mobility. Because several questionnaire items measured the same fundamental perceptions, factor analysis techniques were employed to reduce the number of focus variables included in the analysis. Based on preliminary analyses and previous findings, expected effects on retention are presented for all explanatory variables.

V. RESULTS

A. INTRODUCTION

This chapter presents the results of each of the binomial logit models used in the analysis of Marine Corps junior officer retention. Models for intent to stay in the military and intent to complete a military career are estimated for both officers and enlisted personnel. This approach makes it possible to analyze the effects of work-related perceptions on the intent to stay and the intent of choosing a military career for each pay grade subgroup. Intentions are important since they are considered to be precursors to actual retention behavior among military personnel.¹⁰³ By observing the coefficients and significance levels for focus variables, an assessment can be made as to the validity of work-related perceptions as predictors of retention intent. This study also looks at whether or not the effects of these perceptions vary in predictive power for different racial/ethnic groups. Of particular interest, the analysis looks at the effects of these perceptions on the retention intent of Hispanic Marine Corps officers.

A total of 461 junior officers are included in each of the officer logistic regression models. Of these, 62 percent reported intentions of staying in the Marine Corps, while 52 percent indicated intentions to choose a military career. Of the 1,705 enlisted personnel in the sample, 54 percent indicated intentions to stay in the Marine Corps and 57 percent indicated intentions to complete a military career. The discussion for each model includes goodness of fit results, estimated results for coefficients, and partial effects.

B. TESTING FOR MULTICOLLINEARITY

Due to the significant number of collinear independent variables in the survey data and the inclusion of various interaction terms between race/ethnicity and work-related perceptions in the regression models, multi-collinearity is a concern. When independent variables are highly correlated (codependent), it may make their effects difficult to explain. More importantly, codependence may affect the significance of the regression model.¹⁰⁴ To determine whether or not collinearity presents a problem in the

¹⁰³ Mobley, W.H, Griffeth, R.W., Hand, H.H., and Meglione, B.M., "Review and Conceptual Analysis of the Employee Turnover Process," *Psychological Bulletin*, 36, 493-522.

¹⁰⁴ Yu, Chong H., "An Overview of Remedial Tools for Collinearity in SAS," accessed from <http://www.creative-wisdom.com/pub/collin.pdf> on 22 February 2006.

regression models, bivariate correlations are examined and a Variance Inflation Factor (VIF) test is used. The bivariate correlations indicated that collinearity may be present in the models due to the inclusion of race/ethnic and perception interaction terms. These findings were confirmed by the VIF test. The mathematical equation for diagnosing multi-collinearity is:

$$\text{VIF} = 1 / (1 - R\text{-square})$$

A VIF value is generated for each of the independent variables. Those values are compared to the overall model VIF, generated using the VIF equation. When independent variable VIFs are higher than the model VIF, multi-collinearity problems could exist in the regression model, reducing the independent variables' reliability. A majority of the independent perception variables in each of the officer and enlisted models exceed the model VIF, which makes their reliability suspect. When several of the questionnaire items measured the same perception, the most suitable one for this study was retained in the regression model.

To minimize possible effects of multi-collinearity, factor analysis techniques were used to reduce the number of variables in the model and to help distinguish the variables that belong together based on shared underlying dimensions. Highly correlated perception variables and variables measuring the same underlying perception were removed from the model. F-tests were also used to evaluate the joint effects of collinear variables.

C. RESULTS OF STAY MODEL FOR OFFICERS

1. Model Fit

In logistic regression, R-square-like measures are considered approximations of strength of association in the model and do not necessarily capture the percent of variance explained by the model as in ordinary least squares (OLS) regression. The two commonly used R-square-like measures include the pseudo R-square and the max R-square, which are measures of the explanatory power of a model. The max rescaled R-square has a maximum value of one which makes it similar to the R-square used in OLS regression. As indicated in Table 15, the pseudo R-square for the officer intent-to-stay is .2527 and the max-rescaled R-square is .3438. The Chi-square value based on the likelihood ratio, tests the null hypothesis that all coefficients are equal to zero, and is

known as the -2 LOG L test, or test of the Global null hypothesis.¹⁰⁵ Rejecting the null hypothesis implies that at least one of the beta coefficients for the independent variables included in the model is not equal to zero. For this model, the chi-square is 134.2548 with 42 degrees of freedom and a p-value of less than .0001, which is sufficient evidence to reject the null hypothesis. At least one of the beta coefficients for the explanatory variables in the model is not zero. At least one of the independent variables is linearly related to the log odds of the dependent variable.

The last measure used to examine goodness of fit for the model is the classification table. This approach is a practical way to assess the proportion of cases correctly classified by the model. Classification tables sometimes use a cut-off probability of .5 but for this study, the cut-off probability is determined by taking the number of *stayers* and dividing it by the total number of observations. The actual proportion of those indicating intentions of staying for the officer model is 62 percent. For this probability cut-off, the classification table indicates the model classifies 64.4 percent of the observations correctly.

Table 15. Model Fit Statistics for Officer Stay Intention Model

2 Log L	
Intercept Only	612.091
Intercept and Covariates	477.836
Pseudo R-Square	.2527
Max-rescaled R-Square	.3438
Testing Global Null Hypothesis: Beta = 0	
Likelihood Ratio (Chi-Sq)	134.2548
Pr > Chi-Sq	< .0001
DF	43
Percent Correctly Classified by model	64.4

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

2. Estimated Results

The estimated results of the intent-to-stay model for officers presented in Table 14 indicate that the signs of all coefficients correspond to their hypothesized effects with the exception of OTHRACE. However, this variable is not statistically significant at any of the usual levels of significance. The significance levels indicated for the maximum

¹⁰⁵ Allison, Paul D., *Logistic Regression Using the SAS System Theory & Application: Theory and Application*, (Cary, NC: SAS Institute Inc., 1999), 56-58.

likelihood estimates on Table 16 are for two-tailed tests. Variable significance is tested with one-tail tests in practical cases supported by previous findings in the literature. For those cases, the p-value is derived by taking the corresponding significance level and dividing it by two.

A more intuitive method used to interpret the changes in the independent variable in relation to the dependent variable is to calculate the partial effects of each significant variable on the probability of staying. Partial effects of individual variables on the probability of staying can be calculated by comparing them against a *base case* or the “typical” individual with the base case value for all dichotomous variables. In this study, the base case has a value of zero for all dummy variables. The “typical” or base case individual is a married white male with a high school education and with positive perceptions about equity in the workplace, intra-organizational mobility, and organizational support. The base case probability of staying in the military appears high for the officer model but it does make sense due to the aggregate effects of the baseline characteristics. The partial effects of variables are included in Table 14.

Table 16. Maximum Likelihood Estimates for Officer Stay Intention Model

<i>Base Case Probability of Staying</i>	.95651			
<i>Variable</i>	Estimate	Chi-Square	Pr > ChiSq	Partial Effect
INTERCEPT	3.0908	6.8300	0.0090	
<i>Gender</i>				
FEMALE	-0.6077	5.8989	0.0151**	-0.0357
<i>Marital Status</i>				
SINGLE	-0.2202	0.7938	0.3730	-0.0104
<i>Race/Ethnicity</i>				
HISP	2.6425	4.7518	0.0293**	0.0403
BLACK	1.2458	1.2807	0.2578	0.0306
OTHRACE	-0.9102	0.9301	0.3348	-0.0580
<i>Education</i>				
DEGREE4	-1.5103	1.7115	0.0954+	-0.1272
<i>Active Duty Time</i>				
MEDTIME	0.1664	0.3536	0.5521	0.0064
LONGTIME	1.4327	12.1288	.0005***	0.0328
<i>Work Experience</i>				
MENTOR	-0.8970	11.3420	0.0008***	-0.0568

<i>Variable</i>	Estimate	Chi-Square	Pr > ChiSq	Partial Effect
<i>Opportunity</i>				
PROFDEVOPP	-0.4544	2.5301	0.0856+	-0.0233
WORKOPP	-0.8309	8.5664	0.0034***	-0.0510
ASSIGN	-0.1753	0.3677	0.5442	-0.0079
<i>Equity</i>				
SUPCONCERN	-0.6360	4.4535	0.0348**	-0.0356
TREATMENT	0.2922	0.6899	0.4062	0.0107
OPINION	0.6775	4.2767	0.0386**	0.0209
PERF	-0.1025	0.1592	0.6899	-0.0045
<i>Support</i>				
ENCOURAGE	-0.5653	2.6184	0.0528+	-0.0306
CARE	-0.04141	1.4459	0.2292	-0.0209
PROGRESS	0.3140	1.1430	0.2850	0.0113
<i>Hispanic Interactions</i>				
HISP_PROFDEVOPP	-3.3534	4.4355	0.0352**	-0.0837
HISP_WORKOPP	0.8566	0.6159	0.4326	0.0404
HISP_ASSIGN	-1.5603	1.7878	0.0906+	-0.0255
HISP_SUPCONCERN	2.1169	2.1677	0.0701+	0.0428
HISP_TREATMENT	0.6888	0.1896	0.6632	0.0423
HISP_OPINION	-0.9927	0.3008	0.5834	-0.0391
HISP_ENCOURAGE	0.3211	0.0405	0.8404	0.0394
HISP_PROGRESS	-0.6076	0.2690	0.6040	-0.0392
<i>Black Interactions</i>				
BLACK_PROFDEVOPP	1.3039	0.5838	0.4448	0.0380
BLACK_WORKOPP	0.9474	0.2757	0.5995	0.0320
BLACK_ASSIGN	-1.2474	0.5132	0.4738	-0.0080
BLACK_SUPCONCERN	0.9818	0.2413	0.6233	0.0343
BLACK_TREATMENT	-1.8020	1.0932	0.2958	-0.0124
BLACK_OPINION	1.0444	0.3036	0.5816	0.0412
BLACK_ENCOURAGE	-0.5972	0.1421	0.7062	-0.0033
BLACK_PROGRESS	-2.1632	1.6770	0.0977+	-0.0333
<i>Other Race Interactions</i>				
OTHRACE_PROFDEVOPP	1.9465	1.5176	0.2180	0.0187
OTHRACE_WORKOPP	0.0566	0.0020	0.9647	-0.1533
OTHRACE_ASSIGN	1.6148	2.0430	0.0765+	0.0174
OTHRACE_SUPCONCERN	-0.0338	0.0008	0.9770	-0.1373
OTHRACE_TREATMENT	1.6727	1.4418	0.2299	0.0279
OTHRACE_OPINION	-1.1826	1.0571	0.3039	-0.1142
OTHRACE_ENCOURAGE	-3.4068	2.5709	0.0544+	-0.8136
OTHRACE_PROGRESS	1.8213	1.1505	0.2834	0.0303

***Significant at the .01 level ** Significant at the .05 level * Significant at the .10 level
+Significant at the .10 level (one-tail)

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

3. Personal Characteristics

Personal characteristics include gender, marital status, race/ethnicity, education level, active duty time, and work experience. Among the nine personal characteristics

variables, SINGLE, BLACK, OTHRACE, and MEDTIME are not significant at any accepted significance level. LONGTIME and MENTOR are significant at the .01 percent level, HISPANIC and FEMALE are significant at the .05 percent level, and DEGREE4 is significant at the .10 percent level for a one-tail test. Each of the variables is compared against the *base case* Marine. The effects of significant variables, holding all others constant, are as follows:

FEMALE: A woman is 3.4 percent less likely to intend to stay in the military beyond her initial obligation than is a male Marine.

HISPANIC: A Hispanic officer is 4 percent more likely to intend to stay in the Marine Corps than is a white officer.

LONGTIME: An officer with more than ten years of active duty service but less than twenty years is 3.3 percent more likely to intend to stay in the Marine Corps than is a Marine with less than six years of active duty time.

MENTOR: A Marine Corps officer who indicated he does not have a mentor is 5.7 percent less likely to intend to stay in the military than a Marine who indicates otherwise.

DEGREE4: An officer who indicated his or her education level to include a 4-year college degree is 12.7 percent less likely to intend to stay than does a Marine with a high school education.

4. Perception Variables

Focus or Perception variables are all those variables relating to perceptions of inequity in the workplace, opportunity for career advancement, and organizational support. Among those, the only statistically significant variables are WORKOPP, significant at the one percent level, SUPCONCERN and OPINION, significant at the .05 percent level, and ENCOURAGE, significant at the .10 percent level, for a one-tail test. Holding all other variables constant, the result for the perception variables are as follows:

PROFDEVOPP: A Marine officer dissatisfied with opportunities for professional development has a 2.3 percent lower probability of intending to stay in the Marine Corps as compared with the base case officer who perceives otherwise.

WORKOPP: A Marine who disagrees he or she is afforded the opportunity to do his or her best at work, has a 5.1 percent lower probability of intending to stay past an initial term of obligated service than does an officer who perceives otherwise.

SUPCONCERN: An officer dissatisfied with the level of care shown by supervisors for subordinates has a 3.6 percent lower probability of intending to stay in the Marine Corps than does an officer who perceives otherwise.

OPINION: A Marine officer who disagrees that personal opinions seem to count at work is 2 percent more likely to intend to stay in the Marine Corps as compared with an officer who perceives otherwise. The positive effect in this case may suggest these officers consider personal opinions in the workplace contradictory to good order and discipline and is therefore a positive attribute that results in a higher self-reported probability of staying in the Marine Corps.

ENCOURAGE: A Marine officer who disagrees that someone at work encourages his or her development has a 3.1 percent lower probability of intending to stay in the Marine Corps than does an officer who perceives otherwise.

5. Racial/Ethnic Group and Perception Interactions

To assess whether perceptions vary by race/ethnicity, interaction terms are created between race/ethnic variables and perception variables. Comparisons are made between a white officer with baseline characteristics, who also has positive work-related perceptions, and a minority officer (black, Hispanic, or other race) who has negative perceptions of equity in the workplace, intra-organizational mobility, and organizational support. While negative perceptions may have a negative effect on officers' intentions to stay in the military regardless of race/ethnic group, the negative effect may be more pronounced for minority officers. The intent is to capture any effects of negative perceptions on intentions to stay in the military and the intentions of completing a military career, with regard to race/ethnicity.

The majority of interaction terms are not statistically significant at any level of significance. Significant variables included HISP_PROFDEVOPP (significant at the .05 level), and, HISP_ASSIGN, HISP_SUPCONCERN, BLACK_PROGRESS, OTHRACE_ASSIGN, and OTHRACE_ENCOURAGE, all significant at the .10 percent level for a

one-tail test. Holding all other variables constant, the result for interaction variables are as follows:

HISP_PROFDEVOPP: A Hispanic officer dissatisfied with opportunities for professional development has an 8.4 percent lower probability of intending to stay in the Marine Corps than does a white officer who is satisfied with opportunities.

HISP_ASSIGN: A Hispanic officer who disagrees that his or her present assignment is good for his or her career is 2.6 percent less likely to intend to stay in the Marine Corps than does a white officer who perceives otherwise.

HISP_SUPCONCERN: A Hispanic officer dissatisfied with the level of care shown by supervisors for their subordinates has a 4.3 percent higher probability of intending to stay in the Marine Corps than does a white officer who perceives otherwise. The positive sign on this affect may be because, relative to the base case officer, a Hispanic officer may not be satisfied with supervisory concern for subordinates; he or she does not associate this problem with his or her treatment or progress. It may also be that the negative effect of SUPCONCERN is not enough to overcome the positive effect of HISP.

BLACK_PROGRESS: A black officer who does not agree that someone at work has discussed personal progress with him or her in the preceding 6 months, has a 3.3 percent lower probability of intending to stay in the Marine Corps than does a white officer who perceives otherwise.

OTHRACE_ASSIGN: A minority officer of any other race other than black or Hispanic, who disagrees that his or her present assignment is good for his or her career, has a 1.7 percent higher probability of intending to stay in the Marine Corps than does a white officer who has a positive view of their current assignment. This effect may be due to a minority officer knowing he or she will be moving on to another assignment which will offer better career opportunities or there are other factors that overcome any negative effects of this perception.

OTHRACE_ENCOURAGE: A minority officer of any other race other than black or Hispanic, who disagrees that someone at work encourages his or her

development, has an 81.3 percent lower probability of intending to stay in the Marine Corps than does a white officer who believes otherwise.

6. Joint Significance Tests

Due to the number of interactions used in the regression model, F-tests for joint significance are used to assess the effects of groups of variables (Table 17). The joint significance test for all perception variables is significant at the .01 percent level of significance. The same is true for race/ethnic groups and their perception interactions where the intent is to see if the effects of perception variables are different for each racial/ethnic group than they are for whites. While none of the racial/ethnic group variables were significant by themselves, they remain in the model because the race/ethnic group joint significance test (black, Hispanic, and other) was significant at the .10 percent level of significance and because the researcher believes there is logical dependence between these perception variables and the intention to stay in the military.

Table 17. Joint Significance Tests, Officer Stay Intention Model

Joint Significance Test	Result
All Perceptions Variables	S***
Intra-Organizational Mobility Variables	S***
Inequity Variables	NS
Org. Support Variables	NS
All Race/Ethnic Groups & Perception Interactions	S***
Hispanic Variables & Perception Interactions	NS
Black Variables & Perception Interactions	NS
Other (race/ethnic)Variables & Perception Interactions	NS

S=significant NS=Not Significant ***.01 level of significance

**.05 level of significance *.10 level of significance

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

D. RESULTS OF CAREER INTENT MODEL FOR OFFICERS

The effects of work-related perceptions on career intentions are also analyzed as another means of studying their effect with regard to a Marine officer's intention of staying in the military beyond his or her first term of obligated service. An officer with intentions of completing a military career is logically assumed to want to stay in the military beyond an initial term of obligated service.

1. Model Fit

Table 18 presents the model fit statistics for the officer career-intent model. The

pseudo R-square for this model is .3069 and the max-rescaled R-square is .4095. The model Chi-Square value of likelihood ratio (-2 Log L) is 469.288 with 40 degrees of freedom and a p-value of < .0001. This provides enough evidence to reject the global null hypothesis and conclude that at least one of the beta coefficients for the independent variables in the model is not zero. Using the cut-off probability based on the number of events (number of those indicating intent to stay) divided by the total number of observations, yields .52 percent. According to the classification table, this model correctly classifies 67.5 percent of the sample.

Table 18. Model Fit Statistics for Officer Career Intention Model

-2 Log L	
Intercept Only	638.298
Intercept and Covariates	469.288
Pseudo R-Square	.3069
Max-rescaled R-Square	.4095
Testing Global Null Hypothesis: Beta = 0	
Likelihood Ratio (Chi-Sq)	169.0108
Pr > Chi-Sq	< .0001
DF	40
Percent Correctly Classified by model	67.5

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

2. Estimated Results

The estimated results of the officer career model listed in Table 19 indicate the signs for the statistically significant independent variables are as expected except for the sign for the variable, OTHRACE. Minority officers belonging to all other races not including black or Hispanic had the lowest percentage of any race/ethnic group intending to complete a career in the Marine Corps. The percentage of persons in the other race category indicating intentions of completing a military career is low (41 percent) as compared with 50 percent for Hispanics, 52 percent for whites, and 72 percent for blacks.¹⁰⁶

¹⁰⁶ See Appendix

Table 19. Maximum Likelihood Estimates for Officer Career Intention Model

<i>Base Case Probability Of Completing a Career</i>	.69930			
<i>Variable</i>	Estimate	Chi-Square	Pr > ChiSq	Partial Effect
INTERCEPT	0.8440	0.9461	0.3307	
<i>Gender</i>				
FEMALE	-0.4724	3.6305	0.0567*	-0.1075
<i>Marital Status</i>				
SINGLE	-0.5660	5.2521	0.0219**	-0.1303
<i>Race/Ethnicity</i>				
HISP	0.5029	0.5408	0.4621	0.0943
BLACK	1.6294	2.1759	0.0701+	0.2230
OTHRACE	-2.5887	8.7713	0.0031***	-0.5506
<i>Education</i>				
DEGREE4	-0.0212	0.0006	0.9797	-0.0045
<i>Active Duty Time</i>				
MEDTIME	1.2873	19.8144	0.0001***	0.1946
LONGTIME	2.4611	33.7310	0.0001***	0.2653
<i>Work Experience</i>				
MENTOR	-0.4499	2.7009	0.0502+	-0.1020
<i>Opportunity</i>				
PROFDEVOPP	-0.4449	2.2108	0.0685+	-0.1008
WORKOPP	-0.9053	11.2088	0.0008***	-0.2146
ASSIGN	-0.2461	0.6414	0.4232	-0.0541
<i>Equity</i>				
SUPCONCERN	-1.2288	14.1240	0.0002***	-0.2943
TREATMENT	0.5504	2.2518	0.0668+	0.1020
OPINION	0.7709	5.2831	0.0215**	0.1348
PERF	-0.2498	0.9313	0.3345	-0.0550
<i>Support</i>				
ENCOURAGE	-0.5721	2.2921	0.0650+	-0.1317
CARE	0.0703	0.0386	0.8442	-0.0146
PROGRESS	0.2758	0.8033	0.3701	0.0547
<i>Hispanic Interactions</i>				
HISP_PROFDEVOPP	-3.3872	4.0459	0.0443**	-0.6224
HISP_ASSIGN	1.4612	1.8839	0.0850+	0.2291
HISP_SUPCONCERN	2.7225	2.2657	0.0662+	0.2455
HISP_TREATMENT	0.0708	0.0016	0.9681	0.0274
HISP_OPINION	0.1944	0.0088	0.9254	0.0549
HISP_ENCOURAGE	-2.2606	1.7882	0.0901+	-0.5676
HISP_PROGRESS	1.8108	1.2177	0.2698	-0.0380
<i>Black Interactions</i>				
BLACK_PROFDEVOPP	1.4164	0.6381	0.4244	0.2697
BLACK_ASSIGN	1.9166	0.7141	0.3984	0.2851
BLACK_SUPCONCERN	-0.7759	0.1788	0.6724	0.0312
BLACK_TREATMENT	-0.1029	0.0040	0.9496	-0.0842
BLACK_OPINION	-2.3873	2.4057	0.0605+	0.0023
BLACK_ENCOURAGE	-0.4130	0.0997	0.7522	-0.1165
BLACK_PROGRESS	-0.6073	0.1329	0.7155	-0.1956

<i>Variable</i>	Estimate	Chi-Square	Pr > ChiSq	Partial Effect
<i>Other Race Interactions</i>				
OTHRACE_PROFDEVOPP	0.7839	0.4688	0.4936	0.5023
OTHRACE_ASSIGN	-1.6546	2.8684	0.0903*	-0.2826
OTHRACE_SUPCONCERN	0.8512	0.6257	0.4289	-0.5918
OTHRACE_TREATMENT	-0.3848	0.1161	0.7332	0.5284
OTHRACE_OPINION	1.3354	1.6809	0.0974+	-0.1099
OTHRACE_ENCOURAGE	-0.4590	0.1135	0.7362	-0.6407
OTHRACE_PROGRESS	0.6059	0.2891	0.5908	0.4026

***Significant at the .01 level ** Significant at the .05 level * Significant at the .10 level

+Significant at the .10 level (one-tail)

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

3. Personal Characteristics

All of the personal variables are statistically significant except for the variables HISP and DEGREE4. Hispanics have the second-lowest proportion of those indicating intent to complete a military career (50 percent) and also have the lowest percent of women (33 percent) with an intention of completing a career which suggest their intentions are influenced by one or more factors. The variable HISP may not be significant in this model because the effect of the variable on intentions of completing a military career is reduced because it is spread out through the various perception interaction terms. A majority of officers have a 4-year degree. This results in very little variability in the education variable and makes DEGREE4 not statistically significant in this model. The effects of statistically significant variables, holding all others constant, are as follows:

FEMALE: A woman is 10.8 percent less likely to intend to complete a military career than a male officer with baseline characteristics.

SINGLE: An unmarried officer is 13 percent less likely to intend to complete a military career in the Marine Corps than is a married officer with the baseline characteristics.

BLACK: A black officer is 22 percent more likely to complete a military career than is a white officer with baseline characteristics.

OTHERACE: A minority officer of any other race/ethnicity other than black or Hispanic is 55 percent less likely to intend to complete a military career in the Marine Corps than a white officer.

MEDTIME: An Officer with more than six years of active duty service, but less than ten years, is 19.5 percent more likely to intend to complete a military career in the Marine Corps than is an officer with less than six years of active duty with the baseline characteristics.

LONGTIME: An officer with more than ten years of active duty service, but less than twenty years, is 26.5 percent more likely to intend to complete a career in the Marine Corps than is an officer with less than six years of active duty time.

MENTOR: An officer who indicated he or she does not have a mentor is 10.2 percent less likely to intend to complete a Marine Corps career than is an officer who indicates otherwise.

4. Perception Variables

The signs for statistically significant perception variables shown in Table 19 are as expected except for TREATMENT and OPINION. The positive sign for TREATMENT, or officers who disagree that supervisors deal fairly with work-related issues, may be related to multi-collinearity or a specific subgroup in the officer sample. Insufficient evidence exists in this model to suggest a reason for the effect. One possible explanation may be that officers, who do not think personal opinions count at work, may consider this to be a positive attribute of the Marine Corps. They may consider voicing personal opinions as counterproductive to good order and discipline in the workplace and therefore show a higher likelihood of staying to complete a military career than someone who perceives otherwise.

The perception variables that are not significant in the model at any level of significance include ASSIGN, PERF, CARE and PROGRESS. Variables significant at the .01 percent level of significance include WORKOPP and SUPCONCERN with OPINION significant at the .05 percent level of significance. The remaining variables, PROFDEVOPP, TREATMENT, and ENCOURAGE, are significant at the .10 percent

level of significance for a one-tail test. The effects of significant perception variables, holding all others constant, are as follows:

PROFDEVOPP: A Marine officer dissatisfied with opportunities for professional development is 10.1 percent less likely to intend to complete a military career than is a Marine satisfied with the opportunities.

WORKOPP: An officer who disagrees he or she is afforded the opportunity to do his or her best at work is 21.5 percent less likely to intend to complete a career in the Marine Corps than is an officer with baseline characteristics who perceives otherwise.

SUPCONCERN: An officer dissatisfied with the level of care shown by supervisors for subordinates is 29.4 percent less likely to intend to complete a career in the Marine Corps than is someone who is satisfied.

TREATMENT: An officer who does not believe supervisors deal fairly with issues at work is 10.2 percent more likely to intend to complete a military career than is an officer who believes otherwise. It may be that officers do not necessarily associate this negative perception with their personal progress or there may be other factors that outweigh the effect of this perception.

OPINION: A Marine officer who disagrees that personal opinions seem to count at work is 13.5 percent more likely to intend to stay in the Marine Corps as compared with an officer who perceives otherwise. The positive effect in this case may suggest the absence of personal opinions in the workplace appeals to these officers and therefore indicate a higher probability of staying to complete a career in the Marine Corps.

ENCOURAGE: A Marine officer who disagrees that someone at work encourages his or her development is 13.7 percent less likely to intend to complete a career than is an officer who perceives otherwise.

5. Racial/Ethnic Group and Perception Interactions

Among all race/ethnic interaction terms, the majority are not statistically significant at any level of significance except for HISP_PROFDEVOPP, HISP_ASSIGN, HISP_SUPCONCERN, HISP_ENCOURAGE, BLACK_OPINION, OTHRACE_ASSIGN, and OTHRACE_OPINION. These results suggest perceptions about intra-

organizational mobility, inequity and organizational support have a different effect on the career intentions of minorities than they do for white officers. When Hispanics have negative perceptions about their professional development, current assignment, and supervisor encouragement, it affects their career intentions more than it does for white officers. **HISP_PROFDEVOPP** is statistically significant at the .05 percent level, **OTHRACE_ASSIGN** is significant at the .10 percent level, while the rest of the variables were weakly significant at the .10 percent level of significance for a one-tail test. The unexpected estimates for a few of these interaction terms may be due to questionnaire design (the manner in which a question is asked). The partial effects of statistically significant interaction variables, holding all others constant, are as follows:

HISP_PROFDEVOPP: A Hispanic officer, dissatisfied with opportunities for professional development, is 62.2 percent less likely to intend to complete a career in the Marine Corps than is a white officer who is satisfied with the opportunities.

HISP_ASSIGN: A Hispanic who disagrees that his or her present assignment is good for his or her career is 22.9 percent more likely to intend to complete a career in the Marine Corps than is a white officer who has a positive view of his or her current assignment. The positive effect of this perception may be because regardless of how a Hispanic officer feels about his or her current assignment, their intentions of staying may be influenced more by other factors and this effect is not enough to overcome their propensity to complete a career.

HISP_SUPCONCERN: A Hispanic officer, dissatisfied with the level of care shown by supervisors for their subordinates, is 24.5 percent more likely to intend to complete a military career than is a white officer who believes otherwise. This effect is unexpected and difficult to explain.

BLACK_OPINION: A black officer who perceives personal opinions do not seem to count at work is .27 percent more likely to intend to complete a career in the Marine Corps as compared with a white officer who perceives otherwise.

OTHRACE_ASSIGN: An officer belonging to any minority group other than black or Hispanic, who disagrees that his or her present assignment is good for his or her

career, is 28.3 percent less likely to intend to complete a career in the Marine Corps than is a white officer who has a positive view of his or her current assignment.

OTHRACE_OPINION: An officer belonging to any minority group other than black or Hispanic, who disagrees that personal opinions seem to count at work, is 11 percent more likely to intend to stay in the Marine Corps as compared with a white officer who perceives otherwise. The positive effect is the opposite of what was hypothesized and is difficult to explain.

6. Joint Significance Tests

The joint significance test for perception variables is statistically significant at the .01 percent level of significance (Table 20). This is the same result for the joint significance tests for intra-organizational variables and inequity variables. The joint significance test for all race/ethnic group and perception variables is significant at the .10 level of significance while the Hispanic variables are significant at the .05 level. The joint significance tests show that organizational support variables (ENCOURAGE, CARE, and PROGRESS) are not jointly significant. These variables remain in the model because the joint significance test for all perception variables is significant at the .01 percent level of significance and because of the assumption that the intent to complete a military career is logically dependent on these perception variables. While all of the black variables and all of the “other” race variables are not jointly significant they remain in the model because all of the three race/ethnic group (Hispanic, black, and “other race”) perception variables are jointly significant and so are all of the perception variables.

Table 20. Joint Significance Tests, Officer Career Intention Model

Joint Significance Test	Result
All Perception Variables	S***
Intra-Organizational Mobility Variables	S***
Inequity Variables	S***
Org. Support Variables	NS
All Race/Ethnic Group & Perception Interactions	S*
Hispanic Variables & Perception Interactions	S**
Black Variables & Perception Interactions	NS
Other (race/ethnic) Variables & Perception Interactions	NS

S=significant NS=Not Significant ***.01 level of significance

** .05 level of significance * .10 level of significance

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

E. RESULTS OF STAY MODEL FOR ENLISTED PERSONNEL

Enlisted personnel are an essential component of the Marine Corps' manpower equation. Therefore, it is important to understand how work-related perceptions affect their intentions of staying in the Marine Corps or their intentions to complete a 20-year military career.¹⁰⁷

1. Model Fit

Table 21 presents the model fit statistics for the enlisted stay model. The pseudo R-square for this model is .2249 and the max-rescaled R-square is .3004. The model Chi-Square value of likelihood ratio (-2 Log L) is 434.398 with 40 degrees of freedom and a p-value of < .0001. This provides enough evidence to reject the null hypothesis and conclude that at least one of the beta coefficients for the independent variables in the model is not zero. Using the cut-off probability based on the number of events (number of those indicating intent to stay) divided by the total number of observations, yields 54 percent. According to the classification table, this model correctly classifies 69.5 percent of the sample.

¹⁰⁷ Enlisted personnel make up an average of 12 percent of yearly officer accessions through enlisted-to-officer commissioning programs which include the Marine Enlisted Commissioning Education Program (MECEP), the Enlisted Commissioning Program (ECP), and the Meritorious Commissioning Program (MCP). See Marine Corps Almanac, Marine Corps Concepts and Programs, 2005.

Table 21. Model Fit Statistics for Enlisted Stay Intention Model (N=1,705)

2 LOG L	
Intercept Only	2354.751
Intercept and Covariates	1920.353
Pseudo R-Square	.2249
Max-rescaled R-Square	.3004
Testing Global Null Hypothesis: Beta = 0	
Likelihood Ratio (Chi-Sq)	434.3978
Pr > ChiSq	< .0001
DF	43
Percent Correctly Classified by model	69.4

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

2. Estimated Results

According to the maximum likelihood estimates for the intent-to-stay model for enlisted personnel presented in Table 22, the signs of all significant coefficients correspond to their hypothesized effects. Racial/ethnic variable signs are the opposite of what was hypothesized, but these variables along with FEMALE, TREATMENT, CARE, and ENCOURAGE are not statistically significant at any of the usual levels of significance. Significance levels for statistically significant variables are discussed in their respective sections.

Table 22. Maximum Likelihood Estimates for Enlisted Stay Intention Model (N=1,705)

<i>Base Case Probability Of Staying</i>	.67218			
Variable	Estimate	Chi-Square	Pr > ChiSq	Partial Effect
Intercept	-.7181	16.0761	.0001	
Gender				
FEMALE	-.0960	0.6949	0.4045	-0.0215
Marital Status				
SINGLE	-0.3860	10.6296	0.0011***	-0.0899
Race/Ethnicity				
HISP	-0.0880	0.1036	0.7475	-0.0197
BLACK	-0.1491	0.2909	0.5897	-0.0336
OTHRACE	-0.1217	0.1081	0.7424	-0.0274
Education				
DEGREE4	-0.2947	1.0377	0.3084	-0.0679

<i>Variable</i>	<i>Estimate</i>	<i>Chi-Square</i>	<i>Pr > ChiSq</i>	<i>Partial Effect</i>
<i>Active Duty Time</i>				
MEDTIME	1.2209	55.4199	.0001***	0.2021
LONGTIME	1.8225	136.2654	.0001***	0.2548
<i>Work Experience</i>				
MENTOR	-0.1875	2.4830	0.0576+	-0.0427
<i>Opportunity</i>				
PROFDEVOPP	-0.4815	8.8887	0.0029***	-0.1133
WORKOPP	-0.3242	3.7634	0.0524**	-0.0750
ASSIGN	-0.3929	6.0242	0.0141**	-0.0916
<i>Equity</i>				
SUPCONCERN	-0.3473	3.6440	0.0563**	-0.0805
TREATMENT	0.0202	0.0132	0.9087	0.0044
OPINION	-0.0907	0.2510	0.6163	-0.0203
PERF	-0.3272	6.1796	0.0129**	-0.0757
<i>Support</i>				
ENCOURAGE	0.0349	0.0338	0.8542	0.0076
CARE	0.2421	2.5920	0.1074	0.0510
PROGRESS	-0.2244	1.7160	0.1902	-0.0512
<i>Hispanic Interactions</i>				
HISP_PROFDEVOPP	0.5054	2.1903	0.0695+	-0.0143
HISP_WORKOPP	-0.0317	0.0080	0.9286	-0.1041
HISP_ASSIGN	-0.1600	0.2224	0.6372	-0.1529
HISP_SUPCONCERN	-0.0574	0.0208	0.8853	-0.1161
HISP_TREATMENT	0.0056	0.0002	0.9886	-0.0139
HISP_OPINION	-0.2357	0.3801	0.5375	-0.0969
HISP_ENCOURAGE	0.0172	0.0021	0.9633	-0.0080
HISP_PROGRESS	0.6048	2.9240	0.0873*	0.0609
<i>Black Interactions</i>				
BLACK_PROFDEVOPP	0.8571	5.3311	0.0209**	0.0479
BLACK_WORKOPP	-0.1972	0.2647	0.6069	-0.1603
BLACK_ASSIGN	-0.1655	0.1862	0.6661	-0.1695
BLACK_SUPCONCERN	-0.0911	0.0479	0.8267	-0.1396
BLACK_TREATMENT	0.4703	1.3985	0.2370	0.0704
BLACK_OPINION	-0.1533	0.1324	0.7159	-0.0916
BLACK_ENCOURAGE	0.3593	0.7085	0.3999	0.0516
BLACK_PROGRESS	-0.3855	1.0718	0.3005	-0.1824
<i>Other Race Interactions</i>				
OTHRACE_PROFDEVOPP	0.0725	0.0265	0.8708	-0.1255
OTHRACE_WORKOPP	-0.1638	0.1351	0.7132	-0.1451
OTHRACE_ASSIGN	0.2654	0.4140	0.5199	-0.0571
OTHRACE_SUPCONCERN	0.3254	0.4074	0.5233	-0.0324
OTHRACE_TREATMENT	-0.4674	0.9290	0.3351	-0.1349
OTHRACE_OPINION	0.5500	1.2610	0.2615	0.0697
OTHRACE_ENCOURAGE	-0.1434	0.0880	0.7667	-0.0526
OTHRACE_PROGRESS	-0.0772	0.0317	0.8587	-0.0990

***Significant at the .01 level ** Significant at the .05 level * Significant at the .10 level

++Significant at the .05 level (one-tail) +Significant at the .10 level (one-tail)

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

3. Personal Characteristics

Out of the eight personal characteristics, only marital status, active duty time, and work experiences, are statistically significant. SINGLE is significant at the .01 percent level along with MEDTIME and LONGTIME. MENTOR is significant at the .10 percent level of significance for a one-tail test. The partial effects of significant variables, holding all others constant, are as follows:

SINGLE: A single enlisted Marine is 9 percent less likely to intend to stay in the Marine Corps than is a married Marine.

MEDTIME: An enlisted Marine with six to ten years of active duty service is 20 percent more likely to intend to stay in the military than is a Marine with less than six years of active duty time.

LONGTIME: An enlisted Marine with more than ten years of active duty service but less than twenty, is 25 percent more likely to intend to stay in the Marine Corps than is a Marine with less than six years of active duty time.

MENTOR: An enlisted Marine who indicated he or she did not have a mentor is 4.3 percent less likely to intend to stay in the Marine Corps than is a Marine who perceives otherwise.

4. Perception Variables

All but three of the perception variables are statistically significant. PROFDEVOPP is significant at the .01 percent level, PERF and ASSIGN are significant at the .05 percent level, WORKOPP and SUPCONCERN are significant at the .10 percent level, and CARE and PROGRESS are significant at the .10 percent level for a one-tail test. The partial effects of significant perception variables, holding all others constant, are as follows:

PROFDEVOPP: An enlisted Marine who is not satisfied with opportunities for professional development is 11.3 percent less likely to intend to stay than is a Marine satisfied with the opportunities.

WORKOPP: An enlisted Marine who disagrees he or she is afforded the opportunity to do his or her best at work is 7.5 percent less likely to intend to stay in the Marine Corps than is an enlisted Marine who perceives otherwise.

ASSIGN: An enlisted Marine who does not agree his or her present assignment is good for his or her career is 9 percent less likely to intend to stay in the Marine Corps than is a Marine who has a positive view of his or her current assignment.

SUPCONCERN: An enlisted Marine who is not satisfied with the level of care shown by supervisors for subordinates is 8.1 percent less likely to intend stay in the Marine Corps than is someone who is satisfied.

PERF: An enlisted Marine who does not believe promotions are solely based on work-related performance, is 7.6 percent less likely to intend to stay in the Marine Corps than is a Marine who perceives otherwise.

CARE: An enlisted Marine who does not agree someone at work cares for him or her as a person is 5.1 percent more likely to intend to stay in the military than someone who perceives otherwise. This effect is opposite of what was expected and it may be that enlisted personnel consider receiving personal attention as a negative experience because it may give others the perception of preferential treatment. It may also be that these Marines may want to be known for their professional reputation instead of personal reasons. A lack of personal attention (outside of the professional realm) may appeal to someone and make them more likely to intend to stay.

PROGRESS: An enlisted Marine who does not believe someone at work has discussed his or her personal progress is 5.1 percent less likely to intend to stay in the Marine Corps than is someone who perceives otherwise.

5. Racial/Ethnic Group and Perception Interactions

Race/ethnic and perception interaction variables do not seem to significantly affect intent to stay for enlisted personnel. None of these variables are significant at any of the usual levels of significance with the exception of HISP_PROFDEVOPP (significant at the .10 level for a one-tail test), HISP_PROGRESS (significant at the .10 level), and BLACK_PROFDEVOPP (significant at the .05 percent level). Their estimated partial effects, controlling for all other variables, are as follows:

HISP_PROFDEVOPP: A Hispanic Marine who is not satisfied with opportunities for professional development, is 1.4 percent less likely to intend to stay in the Marine Corps than is a white enlisted Marine who is satisfied with the opportunities

HISP_PROGRESS: A Hispanic Marine who does not believe someone at work has discussed his or her personal progress is 6.1 percent more likely to intend to stay in the Marine Corps than is a white enlisted Marine who perceives otherwise. These Marines may see a discussion of their personal progress, outside of scheduled counseling, as a negative experience. More often than not, Marines who are approached to discuss their progress see this as an opportunity to address deficiencies. Not having these types of discussions may lead a Marine to believe he or she is doing well and does not need one on one attention which ultimately may influence him or her to be more likely to intend to stay. A Hispanic Marine may be even more sensitive to this perception than a white officer.

BLACK_PROFDEVOPP: A black enlisted Marine who is not satisfied with opportunities for professional development is 4.8 percent more likely to intend to stay in the Marine Corps than is a white enlisted Marine who is satisfied with the opportunities. This is not the hypothesized effect and is difficult to explain.

6. Joint Significance Tests

Joint significance tests for all perception variables, intra-organizational mobility variables, and inequity variables are significant at the .01 percent level of significance (Table 23). The joint significance test for all race/ethnic group and perception variables is significant at the .01 percent level and the joint significance test for Hispanic variables is significant at the .05 percent level of significance. While race/ethnic group variables (black, Hispanic, and other) are not jointly significant in the intent-to-stay model for enlisted personnel, black and other race variables remain in the model because the intent for enlisted personnel to stay in the military is logically dependent on these perceptions.

Table 23. Joint Significance Tests for Enlisted Stay Intention Model

Joint Significance Test	Result
All Perception Variables	S***
Intra-Organizational Mobility Variables	S***
Inequity Variables	S***
Org. Support Variables	NS
All Race/Ethnic Group & Perception Interactions	S***
Hispanic Variables & Perception Interactions	S**
Black Variables & Perception Interactions	NS
Other (race/ethnic) Variables & Perception Interactions	NS

S=significant NS=Not Significant ***.01 level of significance

**.05 level of significance *.10 level of significance

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

F. RESULTS OF CAREER-INTENT MODEL FOR ENLISTED PERSONNEL

1. Model Fit

The model fit statistics for the officer career-intent model are presented in Table 24. The pseudo R-square for this model is .3342 and the max-rescaled R-square is .4483. The model Chi-Square value of likelihood ratio (-2 Log L) is 693.618 with 40 degrees of freedom and a p-value of < .0001. This provides enough evidence to reject the global null hypothesis and conclude that at least one of the beta coefficients for the independent variables in the model is not zero. Using the cut-off probability based on the number of events (number of those indicating intent to stay) divided by the total number of observations, yields 57 percent. According to the classification table, this model correctly classifies 74.5 percent of the sample.

Table 24. Model Fit Statistics, Enlisted Career Intention Model

-2 LOG L	
Intercept Only	2333.852
Intercept and Covariates	1640.235
Pseudo R-Square	.3342
Max-rescaled R-Square	.4483
Testing Global Null Hypothesis: Beta = 0	
Likelihood Ratio (Chi-Sq)	693.6179
Pr > ChiSq	< .0001
DF	40
Percent Correctly Classified by model	74.5

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

2. Estimated Results

The Maximum likelihood estimates for the enlisted personnel career-intentions model presented in Table 25, indicate the signs of all significant coefficients correspond to their hypothesized effects with the exception of racial/ethnic variables. Their signs are the opposite of what was hypothesized but only OTHERACE and HISP are statistically significant. Perception variables that are not statistically significant at any of the usual levels of significance include TREATMENT and CARE. Significance levels for statistically significant variables are discussed in their respective sections.

Table 25. Maximum Likelihood Estimates for Enlisted Career Intention Model (N=1,705)

<i>Base Case Probability Of Completing a Career</i>	.76134			
<i>Variable</i>	Estimate	Chi-Square	Pr > ChiSq	Partial Effect
INTERCEPT	1.1600	34.9644	.0001	
<i>Gender</i>				
FEMALE	-0.2261	3.2215	0.0727*	-0.0435
<i>Marital Status</i>				
SINGLE	-0.4398	11.9962	0.0005***	-0.0887
<i>Race/Ethnicity</i>				
HISP	-0.8001	7.7094	0.0055***	-0.1723
BLACK	-0.0955	0.0934	0.7600	-0.0178
OTHRACE	-0.7353	3.4450	0.0634**	-0.1567
<i>Education</i>				
DEGREE4	-0.3065	0.7608	0.3831	-0.0600
<i>Active Duty Time</i>				
MEDTIME	1.2606	56.0361	0.0001***	0.1571
LONGTIME	3.1218	200.4554	0.0001***	0.2250
<i>Work Experience</i>				
MENTOR	-0.0351	5.4950	0.0191**	-0.0597
<i>Opportunity</i>				
PROFDEVOPP	-0.3483	3.9844	0.0459**	-0.0689
WORKOPP	-0.3472	5.9597	0.0146**	-0.0686
ASSIGN	-0.6718	15.0849	0.0001***	-0.1417
<i>Equity</i>				
SUPCONCERN	-0.3984	4.1061	0.0427**	-0.0796
TREATMENT	0.0397	0.0432	0.8353	0.0071
OPINION	-0.2939	2.2336	0.1264+	-0.0187
PERF	-0.3909	7.2671	0.0070***	-0.0574
<i>Support</i>				
ENCOURAGE	-0.1496	0.5327	0.4655	0.0283
CARE	0.2006	1.4998	0.2207	0.0345
PROGRESS	-0.0775	0.1687	0.6813	-0.0144

<i>Variable</i>	<i>Estimate</i>	<i>Chi-Square</i>	<i>Pr > ChiSq</i>	<i>Partial Effect</i>
<i>Hispanic Interactions</i>				
HISP_PROFDEVOPP	0.1859	0.2644	0.6071	-0.2124
HISP_ASSIGN	0.6234	3.1527	0.0758**	-0.1841
HISP_SUPCONCERN	-0.4520	1.1256	0.2887	-0.3816
HISP_TREATMENT	0.9848	5.3271	0.0210**	0.0384
HISP_OPINION	-0.2244	0.2904	0.5899	-0.0550
HISP_ENCOURAGE	0.2140	0.2881	0.5915	-0.1569
HISP_PROGRESS	0.5688	2.2561	0.0666+	-0.0606
<i>Black Interactions</i>				
BLACK_PROFDEVOPP	0.2989	0.5336	0.4651	-0.0273
BLACK_ASSIGN	0.3499	0.6783	0.4102	-0.0458
BLACK_SUPCONCERN	-0.7569	2.6679	0.1024	-0.0838
BLACK_TREATMENT	0.5482	1.4014	0.2365	0.0779
BLACK_OPINION	-0.0632	0.0186	0.8916	-0.0915
BLACK_ENCOURAGE	-0.1242	0.0669	0.7959	-0.0734
BLACK_PROGRESS	0.1595	0.1345	0.7138	-0.0025
<i>Other Race Interactions</i>				
OTHRACE_PROFDEVOPP	-0.0676	0.0186	0.8912	-0.2591
OTHRACE_ASSIGN	0.5129	1.3077	0.2528	-0.1953
OTHRACE_SUPCONCERN	0.7870	1.9355	0.0821+	-0.0685
OTHRACE_TREATMENT	-0.5021	0.8875	0.3462	-0.1124
OTHRACE_OPINION	0.4287	0.6575	0.4175	-0.1250
OTHRACE_ENCOURAGE	-0.1737	0.1102	0.7399	-0.2360
OTHRACE_PROGRESS	0.0229	0.0023	0.9618	-0.1698

***Significant at the .01 level ** Significant at the .05 level * Significant at the .10 level

++Significant at the .05 level (one-tail) +Significant at the .10 level (one-tail)

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

3. Personal Characteristics

Among the nine personal and work-experience variables, BLACK and DEGREE4 are not statistically significant at any level of significance. HISPANIC, SINGLE, MEDTIME, and LONGTIME are significant at the .01 percent level, MENTOR is significant at the .05 percent level, and FEMALE and OTHRACE are significant at the .10 percent level of significance. The estimated partial effects of these variables on career intentions of enlisted personnel, holding all other variables constant, are as follows:

FEMALE: A female Marine is 4.4 percent less likely to intend to complete a career in the military than is a male Marine with baseline characteristics.

HISP: A Hispanic Marine is 17.2 percent less likely to intend to complete a career in the Marine Corps than is a white enlisted Marine.

OTHRACE: A minority enlisted Marine belonging to any other race/ethnic group other than black or Hispanic, is 15.7 percent less likely to intend to complete a career in the Marine Corps than is a white enlisted Marine.

SINGLE: A single enlisted Marine is 9 percent less likely to intend to complete a military career in than is a married Marine.

MEDTIME: An enlisted Marine who has more than six years of active duty but less than ten is 15.7 percent more likely to intend to complete a career in the Marine Corps than is a Marine with less than six years of active duty time.

LONGTIME: An enlisted Marine with more than ten years of active duty service but less than twenty is 23 percent more likely to intend to complete a career in the Marine Corps than is a Marine with less than six years of active duty time.

MENTOR: An enlisted Marine who believes he or she has not had a mentor in the military, is 6 percent less likely to intend to complete a Marine Corps career than is an enlisted Marine who believes otherwise.

4. Perception Variables

Among the ten work-related perception variables, none of those relating to organizational support are statistically significant. ASSIGN and PERF are significant at the .01 percent level, PROFDEVOPP, WORKOPP, and SUPCONCERN are significant at the .05 percent level, and OPINION is significant at the .10 percent level for a one-tail test. The estimated partial effects of these significant variables, holding all other variables constant, are as follows:

PROFDEVOPP: An enlisted Marine not satisfied with opportunities for professional development is 6.9 percent less likely to intend to complete a career in the Marine Corps than is a Marine satisfied with the opportunities.

WORKOPP: An enlisted Marine who disagrees he or she is afforded the opportunity to do his or her best at work is 6.8 percent less likely to intend to complete a career in the Marine Corps than is an enlisted Marine who perceives otherwise.

ASSIGN: An enlisted Marine who disagrees that their present assignment is good for his or her career is 9 percent less likely to complete a Marine Corps career than is a Marine who has a positive view of their current assignment.

SUPCONCERN: An enlisted Marine, not satisfied with the level of care shown by supervisors for subordinates, is 7.9 percent less likely to intend to stay in the Marine Corps for a 20-year military career than is someone who is satisfied.

OPINION: An enlisted Marine who disagrees that personal opinions seem to count at work is 1.9 percent less likely to intend to complete a career in the Marine Corps than is an enlisted Marine who perceives otherwise.

PERF: An enlisted Marine who does not believe promotions are solely based on work-related performance is 5.7 percent less likely to intend to complete a career in the Marine Corps than is a Marine who perceives otherwise.

5. Racial/Ethnic Group and Perception Interactions

The effects of race/ethnic group and perception interaction variables for Hispanics do not correspond to their hypothesized effects. Perceptions about fair treatment in the workplace and personal progress seem to have a positive effect on career intentions. HISP_TREATMENT is significant at the .05 percent level, HISP_ASSIGN is significant at the .10 percent level, and HISP_PROGR and OTHRACE_SUPCONCERN are all significant at the .10 percent level for a one-tail test. The estimated effects of these variables, holding all others constant, are as follows:

HISP_ASSIGN: A Hispanic Marine who disagrees that his or her present assignment is good for their career is 18.4 percent less likely to intend to complete a career in the Marine Corps than is a white Marine who has a positive view of their current assignment.

HISP_TREATMENT: A Hispanic Marine who does not believe supervisors deal fairly with issues at work is 3.8 percent more likely to complete a military career than is a white enlisted Marine who believes otherwise. This result was unexpected and is difficult to explain.

HISP_PROGRESS: A Hispanic enlisted Marine who does not believe someone at work has discussed his or her personal progress is 6.1 percent more likely to intend to complete a career in the Marine Corps than is a white enlisted Marine who perceives otherwise. This unexpected effect may be due to multicollinearity or it may be that Hispanic enlisted Marines feel that conducting a discussion on his or her personal progress is a means of addressing personal deficiencies. This may make a Marine think he or she is not doing well and may impact their career intentions and Hispanic officers may be more sensitive to this perception than are white officers.

OTHRACE_SUPCONCERN: A minority Marine belonging to any other race/ethnicity other than black or Hispanic, who is not satisfied with the level of care shown by supervisors for their subordinates, is 6.9 percent less likely to intend to complete a military career than is a white enlisted Marine who believes otherwise.

6. Joint Significance Tests

Table 26 shows the joint significance test for all perception variables is significant at the .01 percent level of significance. The same is true for variables measuring intra-organizational mobility. The joint significance test for inequity variables is significant at the .05 percent level of significance while all race/ethnic group and perception variables are jointly significant (1 percent level). Even though Hispanic perception variables, black perception variables and other race perception variables are not jointly significant, they remain in the model for continuity.

Table 26. Joint Significance Tests, Enlisted Career Intention Model

Joint Significance Test	Result
All Perception Variables	S***
Intra-Organizational Mobility Variables	S***
Inequity Variables	S**
Org. Support Variables	NS
All Race/Ethnic Group & Perception Interactions	S*
Hispanic Variables & Perception Interactions	NS
Black Variables & Perception Interactions	NS
Other (race/ethnic) Variables & Perception Interactions	NS

S=significant NS=Not Significant ***.01 level of significance

**.05 level of significance *.10 level of significance

Source: Author, from data provided by the (SOAF: WGR 2002) Survey.

G. CHAPTER SUMMARY

An analysis of the effects of perceptions in the workplace on the intention to stay in the military and the intention to complete a military career, for both officers and enlisted personnel, helps in understanding the influences on retention behavior. Four models are used to study the relationship between these effects and retention intent.

Due to the high number of interaction variables used in the regression analyses, bivariate correlations were examined and VIF tests were used to identify possible multicollinearity in the models. Factor analysis methods were used to reduce the number of variables in the model and to help distinguish the variables that belong together based on shared underlying dimensions. Highly correlated perception variables and variables measuring the same underlying perception were removed from the model. The variables CARE and PERF and their racial/ethnic variables were removed from the intention to stay model. In the career intention models, CARE, PERF and WORKOPP and their racial/ethnic interactions were removed. F-tests for joint significance were also used to assess the effects of groups of variables and to compensate for collinearity. The perception variables were jointly significant in the four models as were the race/ethnic group variables.

Variables for active-duty service time, gender, and work experiences, are significant in the officer and enlisted stay models and also in the career-intent models for each subgroup. The retention intention model for officers reveals that a woman generally has a lower probability of staying in the Marine Corps than does a man. The only significant racial/ethnic variable is for Hispanics, which suggests a Hispanic officer is more likely to stay in the military than is a white officer. Having a four-year degree makes an officer significantly (12.7 percent) less likely to stay in the Marine Corps than someone with just a high school degree. This may be because a higher education opens up more job opportunities outside of the military. Partial effects of active duty time variables in all of the models indicate a Marine with more active duty time has a significantly higher probability of staying in the Marine Corps and a higher probability of completing a 20-year career than does a Marine with less than six years of active duty service. The results of the four models suggest that a Marine with a mentor is more likely to stay than a Marine who does not have one.

Among officers, perceptions of professional development and inequity affect one's intentions of staying in the military. For example, regression results suggest that a Marine officer with negative perceptions of his or her professional development and who perceives inequity in the workplace is less likely to stay in the Marine Corps than is a Marine who is satisfied with his or her professional development and the level of equity he or she perceives. Professional development is important for remaining competitive for promotions. An officer who does not believe he or she is adequately prepared for promotion may underestimate his or her opportunity for advancement and be more likely to intend to leave the Marine Corps. Racial/ethnic group and perception interaction terms indicate that perceptions seem to have different effects for persons of different races or ethnicities. Some racial/ethnic group interaction estimates were unexpected and may be a result of questionnaire design.

A black officer who perceives he or she is not advised on personal progress is more likely to leave the Marine Corps than is a white officer who perceives similarly. The intentions of staying in the Marine Corps for officers belonging to other races/ethnicities (other than black or Hispanic) seem to be affected by perceptions of organizational support and intra-organizational mobility. Hispanic officers had the largest partial effects for negative perceptions of professional development (- 52 percent) than any other racial/ethnic group. Hispanic Marine officers who are dissatisfied with their professional development have a significantly higher probability of leaving the Marine Corps than do non-Hispanic officers who are dissatisfied.

For both officers and enlisted personnel, personal characteristic variables, such as gender, marital status, and active duty time, had a significant effect on career intentions. Women and single Marines have a higher probability of leaving the military than men and married Marines. Women might leave to start a family, while single Marines may leave to pursue other employment opportunities outside of the military. The variable for education level is not significant in the officer or enlisted career model. This may be due to a low degree of variability in the DEGREE4 variable since a most officers have a 4-year degree as the highest achieved level of education.

In the career-intention model for officers, negative perceptions of intra-organizational mobility also have significant partial effects. Overall, officers' perceptions of intra-organizational mobility, equity in the workplace, and organization opportunities, had a significant effect on intent to stay in the Marine Corps and intent to complete a 20-year military career. Hispanic officers who have negative perceptions of his or her professional development and current assignments have, on average, a lower probability of completing a career in the Marine Corps than do Hispanic officers with positive perceptions of professional development and current assignment. These perceptions vary by racial/ethnic group, and the results suggest their influence is more significant for Hispanics as compared with persons in other racial/ethnic groups.

The intentions to stay in the military for enlisted personnel are significantly affected by perceptions of intra-organizational mobility opportunities and organizational support. Enlisted Marines who believe they are not afforded opportunities to advance in the Marine Corps, or who feel they do not have the support systems they need to be successful in the military, are more likely to leave the Marine Corps than are Marines who feel otherwise.

The career model for enlisted Marines suggests that intentions to complete a military career are heavily affected by perceptions of intra-organizational mobility and perceptions of inequity. None of the organizational support variables are significant in the enlisted career model. These results could suggest that Marines value fairness and opportunity for advancement more than having someone care about them as individuals or being encouraged in their progression. A Marine with negative perceptions about his or her professional development opportunities, and who does not believe that his or her current job assignment helps with promotion opportunities, has a lower probability of staying in the Marine Corps than does a Marine with positive perceptions.

Professional development is important for remaining competitive for promotions. An officer who does not believe he or she is adequately prepared for promotion may underestimate his or her opportunity for advancement and be more likely to intend to leave the Marine Corps.

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VI. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Marine Corps' cultural diversity is a force multiplier on the field of battle, and Hispanic Americans have proven themselves time and time again on the battlefield. From the battle fields of the American Revolution to the deserts of Iraq and Afghanistan, Hispanic Americans have shown great courage and selfless dedication to our nation and its freedoms.¹⁰⁸

MajGen Richard N. Natonski, USMC
Commanding General, 1st Marine Division

A. SUMMARY AND CONCLUSIONS

1. Summary

The purpose of this study is to determine whether perceptions of the working environment are valid predictors of a Marine's intention to stay in the Marine Corps past his or her initial term of obligated service. Further, the study examines whether the effects of such perceptions concerning intra-organizational mobility, inequity in the workplace, and organizational support vary by racial/ethnic group. The analysis focuses on Hispanics, the fastest growing ethnic minority in the United States.

This study uses data provided by the Defense Manpower Data Center (DMDC) from the *2002 Status of Armed Forces Surveys: Workplace and Gender Relations* (2002 WGR) survey. The 90-item WGR survey was administered to active-duty military personnel in the Army, Navy, Marine Corps, Air Force, and Coast Guard between December 2001 and April 2002. The measures for workplace characteristics, intentions of staying in the military, and "general workplace issues" were designed to capture service-members' perceptions concerning working experiences, relations, and leadership in the military environment.¹⁰⁹ For this research, the data were restricted to Marine Corps respondents in the pay grades of E-1 through E-9 and officer pay grades of O-1 through O-3, providing a total of 2,166 observations.

¹⁰⁸ Scarboro, Kaitlyn M, "Depot Recognizes Hispanic Marines and Sailors," Marine Corps Recruit Depot, San Diego, 23 September 2005 accessed from <http://www.usmc.mil/marinelink/mcn2000.nsf> on 22 February 2006.

¹⁰⁹ Willis, Elizabeth J., and Lipari, Rachel N., 2002 Status of the Armed Forces Surveys: Workplace and Gender Relations: Administration, Datasets, and Codebook. (DMDC, Arlington, VA May 2002),1-12.

Preliminary bivariate analyses provide insight into possible factors influencing the stay/leave intentions of junior officers in the Marine Corps. Among officers, 62 percent indicated intentions to stay in the military and 52 percent indicated they would “likely” or “very likely” stay for a 20-year military career. In the enlisted force, junior personnel (E1-E3) are the least likely to stay in the Marine Corps or to choose a military career, while senior enlisted personnel (E5-E9) are most likely to plan to stay in the Marine Corps or choose a military career. The results show that the decision to stay and the decision to complete a 20-year career are significantly associated with personal characteristics such as gender, pay grade, education, racial/ethnic group, and with a majority of the work-related perceptions included in the analysis.

This study uses a person’s self-reported intent to stay on active duty and to complete a 20-year career in determining how much of the variation in retention intent can be explained by the model’s independent variables. These two measures of retention intent are used for both junior officers and enlisted personnel, resulting in a total of four models. The basic hypothesis of this study is that work-related perceptions may affect the retention choices of junior officers in the Marine Corps. More specifically, this thesis seeks to understand whether Hispanic officers with negative perceptions about intra-organizational mobility, workplace equity, and organizational support, are more likely to say that they expect to leave the Marine Corps than are non-Hispanic or Hispanic officers who perceive otherwise.

2. Conclusions

By analyzing survey data provided by DMDC, this study found that work-related perceptions affect the retention intentions of junior officers and that these perceptions vary by racial/ethnic group. Results also indicate that Hispanics seem to be more sensitive to the effects of negative perceptions in the working environment. Intentions of staying in the military and career intentions are important to consider, especially since these stated intentions are significant predictors of actual retention behavior. Hispanics who feel that they are not able to progress in their career or feel that inequity exists in the workplace have lower self-reported intentions of staying in the Marine Corps than do whites or Hispanics who perceive otherwise. The same effect is true among Hispanics who perceive a lack of organizational support.

The results of this study suggest that Hispanics and blacks have a higher likelihood than do whites of expecting to stay in the military. The same is true when looking at officers' intentions of completing a military career. Hispanic men in the junior enlisted pay grades and women belonging to minority groups other than black or Hispanic have the highest likelihood of retention among all racial/ethnic subgroups.

As in previous studies, the present results indicate that certain demographic variables, including active-duty service time, gender, and work experiences, also have a significant effect on intentions to stay in the military and career intentions for both officers and enlisted personnel. Marines who report having a mentor in the Marine Corps are more likely to state they intend to stay and complete a military career than Marines who do not have a mentor. It would appear that Marines who have someone to provide professional advice and counseling feel especially confident and prepared to succeed in the Marine Corps.

Perception variables constructed from different questionnaire items measure overall perceptions of intra-organizational mobility, inequity in the workplace, and organizational support. For officers, the intention of staying in the Marine Corps is dependent on perceptions of intra-organizational mobility (advancement opportunities) and perceptions of inequity in the workplace. Not surprisingly, officers with negative perceptions of professional development opportunities and the opportunity to do their best at work are less likely than their counterparts to say that they expect to stay in the Marine Corps. This suggests that officers are concerned with their work-related performance and development perhaps because these two factors play an important role in the Marine Corps promotion process.

The intention of officers to stay in the Marine Corps is also dependent on their perceptions of inequity in the workplace. Caring for subordinates is a very important leadership trait for Marines—and this is especially true for officers who consider themselves leadership exemplars. An officer who is dissatisfied with the level of care shown by supervisors for subordinates is less likely to say that he or she expects to stay in the Marine Corps and less likely to intend to complete a 20-year career than is someone who feels otherwise. Perceptions of organizational support likewise appear to have an

effect on one's intentions of completing a military career. An officer who believes he or she does not receive encouragement for professional development is apparently less likely to intend stay to complete a career in the Marine Corps than is an officer who believes otherwise.

Intentions of staying in the military for Hispanics seem to be affected by perceptions of intra-organizational mobility and inequity in the workplace. Hispanics who are dissatisfied with opportunities for professional development or feel their present assignment is not good for their career are less likely to intend to stay in the Marine Corps than are white officers or Hispanic officers who perceive otherwise. More specifically, a Hispanic officer is 8.4 percent less likely to intend to stay in the Marine Corps and 62 percent less likely to intend to complete a military career when he or she is dissatisfied with opportunities for professional development than is a white officer who feels satisfied. Hispanics who do not feel their present assignment is good for their career are 3 percent less likely to intend to stay in the Marine Corps than are whites who feel satisfied their present assignment. Hispanic officers also value supervisors caring for subordinates. Officers not satisfied with the level of care by supervisors for subordinates are less likely to stay in the Marine Corps than are those who believe supervisors look out for their subordinates. While perceptions are found to vary by racial/ethnic groups, this study suggests that the effects of work-related perceptions are not as pronounced among other minority officers as they are for Hispanics.

These results reinforce the importance of perceptions as influencers in the stay/leave decision for Marines. Even though their influence is not limited to any one particular race/ethnic group, it is important for DoD and the Marine Corps to understand their influence on the retention intentions for members of minority groups. Due to the disproportionately low numbers of minorities in the officer ranks, it is more difficult to replace a qualified Hispanic officer who might leave the Marine Corps because of these perceptions.

Due to the complexity of the problem, low levels of officer retention have been addressed in many previous studies. Focusing on the increasing participation of Hispanics in today's Marine Corps, this study seeks to better understand the possible

factors that influence the retention intentions of Hispanic officers in the Marine Corps. Despite Hispanics' self-reported compatibility with Marine Corps values and ideals the underrepresentation of Hispanics in the higher officer ranks suggest that qualified Hispanic men and women are leaving the Marine Corps early in their military career. This situation perpetuates the problem of achieving adequate representation of Hispanics throughout the officer ranks.

B. RECOMMENDATIONS

This study finds that perceptions about the military working environment influence the retention intentions of junior officers. At the same time, one cannot conclude that these factors are directly related to the underrepresentation of Hispanics in high-ranking officer pay grades. Because these conclusions are drawn from self-reported responses to questionnaire items designed to capture service-members' perceptions concerning work-related experiences, work relations, leadership, and satisfaction with the military environment, the logical assumption can be made that improving these perceptions would improve job satisfaction and, ultimately, retention.

Existing Marine Corps programs may help to improve minority officer representation and retention in the officer ranks by providing minorities with increased access to the officer corps and the skill sets necessary to remain competitive in the promotion process. Adequate representation of Hispanics in the higher officer ranks is ultimately dependent on having larger numbers in the lower ranks. These programs may also help to attract qualified Hispanics into both the enlisted ranks and officer corps by providing much-needed Hispanic role models. Young men and women may be encouraged to join the Marine Corps if they see someone with military accomplishments with whom they can identify and believe they have every opportunity to achieve the same, if not more. These programs play an important role in helping to foster diversity in the officer corps and by taking full advantage of individual talents essential for building a better Marine Corps for the 21st century.

1. Mentorship

Mentoring is successfully used in the civilian sector to help new employees adjust to the organization and to provide them with role models who can also offer guidance on building their own successful careers. Mentoring has always been part of Marine Corps

leadership and has been very successful giving Marines the necessary guidance, support, and self-confidence necessary for success within the organization. However, the benefits of mentoring have not yet been fully maximized. Mentoring is not just about being a good Marine leader, but also about developing aspiring Marine leaders and equipping them with the right tools to ensure the future success of the Marine Corps as an institution.

The Marine Corps recently introduced a service-wide professional development program designed to ensure the success of a culturally-diverse fighting force. A mentoring program instituted by the Training and Education Command (TECOM) is designed to provide Marines with the resources necessary to achieve personal and professional growth.¹¹⁰ Minority officers lack upward mobility in part because they lack the skills that come with proper career guidance and preparation. Due to the small number of high-ranking minority officers, it is difficult for younger minority officers to find mentors who share similar cultural backgrounds and experiences. It is therefore recommended that Marine officers and senior enlisted Marines provide cross-racial/ethnic mentoring to junior officers and junior enlisted Marines. However, for the program to be effective, care should be taken to ensure mentoring does not become a mandatory duty for leaders, nor should it be promoted as an “equal-opportunity” program for minorities. Mentoring not only helps the mentored, but may also be important for educating non-minority officers about cultures with which they may not be familiar. Diversified mentoring relationships are essential to improving satisfaction and retention among minority officers and for achieving their continued representation in the high-ranking officer pay grades.

2. Military Occupational Specialty Road Maps

This study suggests that, among junior enlisted personnel, self-reported intentions of staying in the Marine Corps are affected by work-related perceptions. The intentions of junior enlisted personnel in staying in the military are also considerably lower than the retention intentions of officers. Since the Marine Corps considers enlisted personnel an

¹¹⁰ Agg, J., “Mentoring Program: Steel Sharpens Steel,” (Marine Corps Base, Quantico, September, 2005), accessed from <http://www.usmc.mil/marinelink/mcn2000.nsf>, February 2006.

essential part of the manpower equation, it is important to also consider their professional development—not just as enlisted personnel, but as future leaders.

The Military Occupational Specialty (MOS) Roadmap, tailored for each MOS, guides enlisted Marines throughout their enlistment and offers professional development opportunities through training and education necessary for a successful Marine Corps career. These roadmaps carefully point out formal schooling requirements and training required for individual MOSs. While they also provide guidance on professional military education and individual educational opportunities, they should be used as an additional to provide detailed information about enlisted-to-officer commissioning programs. Material on these career options should be incorporated into these roadmaps to inform junior enlisted Marines of other possible career opportunities and to allow them to prepare and ultimately compete for these commissioning programs. If a junior-ranking Marine is aware that several options are available for professional development and for a Marine Corps career, perhaps he or she may be more likely to decide stay in the service. This option is especially important for introducing more minorities into the officer ranks and for their retention in the Marine Corps, regardless of their career choice.

3. Enlisted Commissioning Programs

Although the number of Hispanics has steadily risen in the Marine Corps, their numbers in the officer ranks lag behind levels in the enlisted ranks. Marine officers commissioned through enlisted commissioning programs are less likely to see higher officer pay grades due to restrictions of active duty time served, but these programs are still essential in promoting career opportunities to junior enlisted Marines and especially to teenagers considering joining the Marine Corps.¹¹¹ If a prospective recruit sees role models with whom he or she can identify, that person might be more likely to join.

These commissioning programs can be beneficial for Hispanics and the Marine Corps in several ways. The underrepresentation of Hispanics in the officer ranks has been attributed to various factors, including their lower educational achievement as a group. Enlisted-to-officer commissioning programs may be a “win-win” solution for Hispanics and the Marine Corps. Programs such as the Marine Enlisted Commissioning

¹¹¹ See, Office of the Under Secretary of Defense Personnel and Readiness, *Career Progression of Minorities and Women Officers* (Washington, D.C., 2002).

Education Program (MECEP) and the Enlisted Commissioning Program (ECP) can help Hispanics pursue higher education goals and improve their representation in the officer ranks. At the same time, the Marine Corps builds upon its human capital investment by retaining these men and women on active duty longer. This approach also promotes diversity, which may appeal to prospective Hispanic officer candidates.

4. Future Research

This study addresses officer retention by focusing on the effects of work-related perceptions. Limitations of this study included availability of data due to survey design and time constraints which affect the number of regression models used to analyze the data. Future research should focus on actual retention behavior using non-collapsed or pre-recorded data from surveys. These responses can then be matched with officer records, such as those maintained in the Total Force Data Warehouse (TFDW) or DMDC, which show actual turnover decisions. Any future surveys should be similar to the 1996 Armed Forces Equal Opportunity Survey, which focuses on work relations and the perceptions of racial/ethnic groups. However, it is important to include all racial/ethnic groups (including whites) to build a baseline for reference and future comparisons. Finally, future research that looks at the Hispanic military population should focus on the various sub-groups within the ethnic category itself. The diversity found within the Hispanic demographic complicates identifying retention influences and makes turnover behavior predictions difficult. One should avoid making general or blanket conclusions regarding the Hispanic population; despite a shared language, individual cultures and subgroups respond differently to different influences.

Finally, the benefits of diversity and methods to successfully manage it need to become part of the curriculum in every officer and enlisted Professional Military Education (PME) program. Most importantly, diversity should never be confused with equal opportunity. Diversity, quite simply, is variety.

APPENDIX A. TABLES OF STAY/CAREER INTENTIONS BY EXPLANATORY VARIABLES

Table A.1. Percentage of Stay Intentions for Officers, by Variable

Officers (O1-O3)				
Variable	White	Hispanic	Black	Other
<i>Intention</i>				
STAY	60.7	69.1	75.9	55.9
<i>Gender</i>				
MALE	69.8	72.2	81.8	64.7
FEMALE	48.3	68.7	72.2	47.1
<i>Marital Status</i>				
MARRIED	66.3	82.4	64.3	56.5
SINGLE	53.5	60.0	86.7	54.6
<i>Education</i>				
DEGREE4	60.1	68.3	75.0	54.6
<i>Active Duty Time</i>				
SHORTTIME	53.5	65.4	71.4	62.5
MEDTIME	63.8	60.0	33.3	38.5
LONGTIME	81.1	100.0	91.7	80.0
<i>Work Experience</i>				
MENTOR	44.4	52.4	75.0	25.0
<i>Intra-Org. Mobility</i>				
PROFDEVOPP	45.8	45.5	66.7	77.8
WORKOPP	46.6	57.8	75.0	46.2
ASSIGN	48.1	50.0	71.4	56.3
<i>Equity</i>				
SUPCONCERN	46.0	59.1	66.7	47.1
TREATMENT	49.4	58.3	60.0	61.5
OPINION	55.3	46.7	75.0	50.0
PERF	57.1	55.6	70.6	50.0
<i>Org. Support</i>				
ENCOURAGE	44.1	50.0	57.1	28.6
CARE	46.7	60.0	50.0	50.0
PROGRESS	53.8	65.0	62.5	50.0

Table A.2. Percentage of Career Intentions for Officers, by Variable

Officers (O1-O3)				
Variable	White	Hispanic	Black	Other
<i>Intention</i>				
CAREER	51.7	50.0	72.4	41.2
<i>Gender</i>				
MALE	62.4	72.2	72.7	41.2
FEMALE	37.1	33.3	72.2	41.2
<i>Marital Status</i>				
MARRIED	62.3	70.6	78.6	39.1
SINGLE	38.2	36.0	66.7	45.5
<i>Education</i>				
DEGREE4	51.1	48.8	71.4	42.4
<i>Active Duty Time</i>				
SHORTTIME	35.9	38.5	57.1	43.8
MEDTIME	64.8	60.0	66.7	30.8
LONGTIME	84.9	83.3	91.7	60.0
<i>Work Experience</i>				
MENTOR	41.4	42.9	62.5	37.5
<i>Intra-Org. Mobility</i>				
PROFDEVOPP	36.4	31.8	66.7	66.7
WORKOPP	39.2	36.8	75.0	30.8
ASSIGN	40.6	50.0	71.4	50.0
<i>Equity</i>				
SUPCONCERN	34.7	45.4	58.3	41.2
TREATMENT	43.2	50.0	60.0	53.9
OPINION	46.6	33.3	50.0	58.3
PERF	48.5	44.4	64.7	37.5
<i>Org. Support</i>				
ENCOURAGE	41.2	33.3	42.9	35.7
CARE	45.6	40.0	50.0	42.9
PROGRESS	47.9	55.0	62.5	43.8

Table A.3. Percentage of Stay Intentions for Enlisted Personnel, by Variable

Junior Enlisted (E1-E9)				
Variable	White	Hispanic	Black	Other
<i>Pay Grade</i>				
JR ENLISTED(E1-E4)	32.4	38.5	32.3	36.7
SR ENLISTED(E5-E9)	68.9	68.8	77.7	66.2
<i>Gender</i>				
MALE	53.2	53.7	65.0	53.9
FEMALE	50.4	53.6	57.4	48.7
<i>Marital Status</i>				
MARRIED	61.4	64.0	73.0	63.0
SINGLE	40.2	40.5	45.3	38.7
<i>Education</i>				
HIGH SCHOOL	49.3	50.0	54.6	54.4
DEGREE2	53.7	57.3	65.5	48.9
DEGREE4	64.4	50.0	57.9	60.0
<i>Active Duty Time</i>				
SHORTTIME	65.2	69.2	37.1	36.6
MEDTIME	66.2	69.2	75.6	73.1
LONGTIME	80.5	91.4	80.6	73.0
<i>Work Experience</i>				
MENTOR	47.2	43.2	49.5	44.8
<i>Intra-Org. Mobility</i>				
PROFDEVOPP	38.5	47.9	55.2	43.4
WORKOPP	40.0	40.7	51.5	44.3
ASSIGN	40.7	42.6	48.6	43.7
<i>Equity</i>				
SUPCONCERN	41.0	46.5	53.1	47.8
TREATMENT	42.3	40.0	59.3	42.9
OPINION	39.5	44.1	49.5	42.7
PERF	47.3	51.4	57.5	44.8
<i>Org. Support</i>				
ENCOURAGE	46.0	50.9	57.8	45.8
CARE	44.8	51.6	55.7	46.4
PROGRESS	47.9	54.4	55.5	44.8

Table A.4. Percentage of Career Intentions for Enlisted Personnel, by Variable

Junior Enlisted (E1-E9)				
Variable	White	Hispanic	Black	Other
<i>Pay Grade</i>				
JR ENLISTED(E1-E4)	33.3	34.3	26.3	27.9
SR ENLISTED(E5-E9)	76.5	71.5	87.4	73.7
<i>Gender</i>				
MALE	58.3	52.4	73.5	52.6
FEMALE	54.0	53.6	57.4	47.4
<i>Marital Status</i>				
MARRIED	66.6	66.5	79.1	65.4
SINGLE	43.8	35.7	46.2	33.3
<i>Education</i>				
HIGH SCHOOL	53.8	50.0	55.5	45.6
DEGREE2	58.0	55.9	69.7	51.1
DEGREE4	71.1	50.0	73.7	80.0
<i>Active Duty Time</i>				
SHORTTIME	37.4	34.5	31.9	29.0
MEDTIME	66.9	71.2	78.1	65.4
LONGTIME	93.6	93.1	94.4	91.9
<i>Work Experience</i>				
MENTOR	49.9	40.0	51.6	39.7
<i>Intra-Org. Mobility</i>				
PROFDEVOPP	42.8	46.4	50.5	42.2
WORKOPP	42.8	45.8	51.5	43.1
ASSIGN	42.3	48.1	51.4	42.3
<i>Equity</i>				
SUPCONCERN	44.0	45.8	50.8	48.9
TREATMENT	44.6	52.1	59.3	40.3
OPINION	40.7	45.6	48.4	37.3
PERF	51.1	53.3	61.2	42.2
<i>Org. Support</i>				
ENCOURAGE	48.3	52.8	55.9	44.4
CARE	46.8	53.3	52.3	44.9
PROGRESS	52.9	57.0	61.8	46.6

LIST OF REFERENCES

Agg, J., "Mentoring Program: Steel Sharpens Steel," Marine Corps Base, Quantico, September 2005, accessed from <http://www.usmc.mil/marinelink/mcn2000nsf>, February 2006.

Allison, Paul D. 1999. *Logistic Regression Using the SAS System Theory & Application: Theory and Application*, Cary, NC: SAS Institute Inc., 56-58.

Asch, Beth J., Christopher Buck, Jacob Alex Klerman, Meredith Kleykamp and David S. Loughran. 2005. *What Factors Affect the Military Enlistment of Hispanic Youth?: A Look at Enlistment Qualifications*. Santa Monica, CA: RAND Corporation.

Beehr, Terry A., and Taber, Tom D. 1993. "Perceived Intra-Organizational Mobility: Reliable Versus Exceptional Performance as Means to Getting Ahead," *Journal of Organizational Behavior*, Vol. 14, No. 6, 579-593.

Behnke, Andrew O. et al. 2006. *Ethnic Variations in the Connection between Work-induced Family Separation and Turnover Intent*. Military Family Research Institute, Purdue University, accessed from [http://www.cfs.purdue.edu/mfri/pages/research/ethnic variations.html](http://www.cfs.purdue.edu/mfri/pages/research/ethnic%20variations.html), on December 2005.

Boehmer, Matt, and Zucker, Andrea. 2004. Department of Defense Youth Poll Wave 6: Overview Report Joint Advertising, Market Research and Studies, Arlington, VA.

Carrell, Michael R., Dittrich John E. 1978. "Equity Theory: The Recent Literature, Methodological Considerations, and New Directions," *The Academy of Management Review*, Vol. 3, No. 2 (April 1978), 202-205.

Cosier, Richard, A., Dalton, Dan R. 1983. "Equity Theory and Time: A Reformulation," *The Academy of Management Review*, Vol. 8, No.2, 311.

Dansby, Mickey R. 2001. *Managing Diversity in the Military: Research Perspectives from the Defense Equal Opportunity Management Institute*, New Jersey: Transaction Publishers, 63.

Demirel, Turgay. 2002. *A Statistical Analysis of Officer Retention in the U.S. Military*, Naval Postgraduate School, Monterey, CA.

Directorate of Research: Defense Management Equal Opportunity Management Institute, DEOMI Heritage Series Pamphlet 99-4. 1999. *Hispanic Heritage Month: A Vision for the 21st Century*, Patrick AFB, FL.

DEOMI. 2004. *Twenty-seven Year Demographic Trends: Active Duty Forces, 1977-2004*, Patrick Air Force Base, Florida: Defense Equal Opportunity Management Institute.

Eitelberg, Mark J., and Stephen L. Mehay, eds. 1994. *Marching Toward the 21st Century*, Westport, CT: Greenwood Press.

Fricke, Ronald D., Jr. 2002. *The Effects of Perstempo on Officer Retention in the US Military*, Santa Monica, CA: RAND Corporation, 66.

Harrell, Margaret, C. and Kirby, Sheila N. 1999. *Barriers to Minority Participation in Special Operations Forces*, MR-1042-SOCOM, Santa Monica: CA. RAND Corporation.

Hattiangadi, Anita U., Gary Lee, and Aline O. Quester. 2004. *Recruiting Hispanics: The Marine Corps Experience, Final Report*, Alexandria, Virginia, Center for Naval Analyses.

Hernandez, Javier. 2003. *An Exploratory Study of Hispanic Officer Recruiting in the Mexican-American Community of South-Central Los Angeles: Implications for the Officer Corps of the Future*, Monterey, CA, Naval Postgraduate School.

Hosek, S.D., Tiemeyer, P., Kilburn, M.R., Strong, D.A., Ducksworth, S., and Ray, R. 2001. *Minority and Gender Differences in Officer Career Progression*, Santa Monica, CA RAND Corporation.

Ibarra, Herminia. 1995. "Race, Opportunity, and Diversity of Social Circles in Managerial Networks," *The Academy of Management Journal*, Vol. 38, No. 3 (June), 673-703.

Kapp, Lawrence. 2005. *Recruiting and Retention: An Overview of FY2004 and FY2005 Results for Active and Reserve Component Enlisted Personnel*, Congressional Research Service (CRS), Accessed from <http://www.fas.org/sgp/crs/natsec/RL32965.pdf>

Kirchmeyer, Catherine. 1995. "Demographic Similarity to the Work Group: A Longitudinal Study of Managers at the Early Career Stage," *Journal of Organizational Behavior*, Vol. 16, No. 1 (January), 67-82.

Kocher, K. M. & Thomas, G. W. 2000. *A Preliminary Analysis of the 1999 USMC Retention Survey*, (CRM 85-21), Monterey, CA, Naval Postgraduate School.

Kostiuk, Peter F. 2001. *Pay and Retention of Marine Corps Aviators*, Alexandria, VA, Center for Naval Analyses.

Landau, Jacqueline. 1995. "The Relationship of Race and Gender to Manager's Rating of Promotion Potential." *Journal of Organizational Behavior*, Vol. 16, No. 4 (July), 391.

Lawler, Edward E. 1973. *Motivation in Work Organizations*, Monterey, CA: Brooks and Cole.

Lee, Thomas W., Mowday, Richard T. 1987. "Voluntarily Leaving an Organization: An Empirical Investigation of Steers and Mowday's Model of Turnover," *The Academy of Management Journal*, Vol. 30, No. 4 (December), 721-723.

Loden, Marilyn, Rosner, Judy. 1991. *Workforce America! Managing Employee Diversity as a Vital Resource*, Homewood: Business One Irwin, 221.

Mitchel, James O. 1981. "The Effect of Intentions, Tenure, Personal, and Organizational Variables on Managerial Turnover," *Academy of Management Journal*, Vol. 24, #4, Academy of Management, (December), 742.

Mobley, W.H, Griffeth, R.W., Hand, H.H., and Meglione, B.M. 1979. "Review and Conceptual Analysis of the Employee Turnover Process," *Psychological Bulletin*, 36, 493-522.

Moon, Molly K. 1997. *Understanding the Impact of Cultural Diversity on Organizations*, Maxwell AFB, Alabama, Air Command and Staff College.

Moorman, Robert, H., Blakely, Gerald L., Niehoff, Brian P. 1998. "Does Perceived Organizational Support Mediate the Relationship between Procedural Justice and Organizational Citizenship Behavior?" *The Academy of Management Journal*, Vol. 41, No. 3, (June), 351-355.

Moskos, Charles. 2001. "What Ails the All-Volunteer Force: An Institutional Perspective," *Parameters*, (Summer 2001), pp. 34-5

Office of the Under Secretary of Defense Personnel and Readiness. 2002. *Career Progression of Minorities and Women Officers*, Washington, D.C.

Pecenco, Elena, G. 2005. *The Retention of Female Unrestricted Line Officers*, Monterey, CA, Naval Postgraduate School.

Perkins, J. "Corps Diversity a Strength," Marine Corps Recruiting Command, Washington, 23 June 2005, accessed from <http://www.usmc.mil/marinelink/mcn2000.nsf>, December 2005.

Population Representation in the Military Services: Fiscal Year 2001, March 2003, accessed 4 December 2005 from, <http://www.dod.mil/prhome/poprep2003/> Executive Summary.

Porter, J. R. and Washington, R. E. 1993. "Minority Identity and Self-Esteem," Vol. 19, 140. *Annual Review of Sociology*.

Portes, Alejandro and Truelove, Cynthia. 1987. "Making Sense of Diversity: Recent Research on Hispanic Minorities in the United States," *Annual Review of Sociology*, Vol 13, 360.

Quester, Aline O., Gilroy, Curtis L. 2001. *America's Military: A Coat of Many Colors*, (CNA/CRM D0004368.A1/Final, July), 18.

Ramirez, Roberto and De la Cruz, Patricia. 2003. *The Hispanic Population in the United States: March 2002*, U.S. Department of Commerce, Washington, D.C.

Ramirez, Roberto. 2004. *We the People: Hispanics in the United States*, Washington, D.C., U.S. Census Bureau.

Sanchez, Rebecca P., Bray, Robert M., Vincus, Amy A., and Bann, Carla M. 2004. "Predictors of Job Satisfaction Among Active Duty Reserve/Guard Personnel in the U.S. Military," *Military Psychology*, 16(1), 20.

Scarboro, Kaitlyn M, "Depot Recognizes Hispanic Marines and Sailors," Marine Corps Recruit Depot, San Diego, 23 September 2005 accessed from <http://www.usmc.mil/marinelink/mcn2000.nsf>, February 2006.

Sears, George A. 2004. *Can Minorities Succeed in Today's Army?* Strategy Research Project. U. S. Army War College, PA, 7.

Spencer, Daniel G., and Steers, Richard M. 1980. "The Influence of Personal Factors and Perceived Work Experiences on Employee Turnover and Absenteeism," *The Academy of Management Journal*, Vol. 23, No. 3, (September), 567-572.

Stewart, J.B., and Firestone, J. M. 1989. *Looking for a Few Good Men?: Predicting Patterns of Retention, Promotion, and Accession of Minority and Women Officers*, Patrick AFB, FL, Defense Equal Opportunity Management Institute.

Telly, Charles S., French, Wendell, L., and Scott, William G. 1971. The Relationship of Inequity to Turnover Among Hourly Workers, *Administrative Science Quarterly*, Vol. 16, No. 2 (June), 1165-172.

Thomas, R. R. Jr. 1991. *Beyond Race and Gender: Unleashing the Power of Your Total Workforce by Managing Diversity*, (New York, NY: American Management Association), 3.

U.S. General Accounting Office. 2003. *Decennial Census: Methods for Collecting and reporting Hispanic Subgroup Data Need Refinement*, (GAO-03-228), Washington, D.C., GAO.

U.S. General Accounting Office. 1998. *Military Attrition: Better Data, Coupled With Policy Changes, Could Help the Services Reduce Early Separation*, (GAO/NSIAD-98-213), Washington, D.C., GAO.

U. S. General Accounting Office. 2001. *Military Personnel: First Term Personnel Less Satisfied With Military Life than Those in Mid-career*, (GAO-02-200), Washington, D.C., GAO.

USMC Concepts and Programs 2005. 2005. Headquarters, U.S. Marine Corps, Washington, D.C.

Weiss, Howard M., Shelley M. MacDermind, Rachelle Strauss, Katherine E. Kurek, Benjamin Le, and David Robbins. 2002. "Retention in the Armed Forces: Past Approaches and New Research Directions," *Military Family Research Institute*, Purdue University.

Willis, Elizabeth J., and Lipari, Rachel N., 2002 *Status of the Armed Forces Surveys: Workplace and Gender Relations: Administration, Datasets, and Codebook*. Arlington, VA, Defense Management Data Center.

Wooldridge, Jeffrey M. 2003. *Introductory Econometrics: A Modern Approach* Mason, OH: Thomson.

Yu, Chong H., "An Overview of Remedial Tools for Collinearity in SAS," accessed from <http://www.creative-wisdom.com/pub/collin.pdf>, February 2006.

Zinner, Marc A. 1997. *U.S. Marine Corps Company-Grade Officer Retention*, Monterey, CA, Naval Postgraduate School.

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BIBLIOGRAPHY

DoD Needs More Hispanics in Military, Newmax.com, September 2005, <http://www.newsmax.Com/archives/articles/2005/9/19/210126.html>, accessed December 2005.

Hispanics in the Military. Pew Hispanic Center, March 27, 2003. Accessed from <http://pewhispanic.org/reports/report.php?ReportID=17> on 21 January 2006.

Logistic Regression. Accessed from www2.chas.ncsu.edu, January 2006.

MARADMIN 506/05 Observance of National American Indian Heritage Month accessed from www.usmc.mil, December 2005.

Marine Corps Concepts and Programs 2004, accessed from <http://hqinet001.hqmc.usmc.mil/p&r/concepts/2004/TOC5.HTM>, December 2005.

Office of the Deputy Under Secretary of Defense. 2003. *2003 Demographics: Profile of the Military Community*, Arlington, VA, Military Family Resource Center. Accessed from <http://www.Militaryhomefront.dod.mil/portal/page>, February 2006.

U. S. Census Bureau, 2004 American Community Survey Data Profile Highlight, Accessed from <http://www.census.gov/pubinfo/www/NEWhispML1.html>, February 2006.

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